

CHAPTER 8710
BOARD OF TEACHING
TEACHER AND OTHER SCHOOL
PROFESSIONAL LICENSING

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8710.0100 SCOPE.

This chapter governs the procedures for licensure and the educational requirements for instructional and support personnel who are required to be licensed by the Board of Teach-

ing. A person required to hold a license shall meet the requirements in this chapter for each licensure field in which the person practices.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *15 SR 2267; L 1998 c 397 art 11 s 3; 23 SR 1928*

REQUIREMENTS AND PROCEDURES

8710.0200 FEES.

Effective July 1, 1996, each application for the issuance and/or renewal of a license to teach shall be accompanied by a processing fee in the amount of \$47. The fees shall be paid to the commissioner of education who shall deposit them with the commissioner of finance, as provided by law, and report each month to the commissioner of finance the amount of fees collected.

The fee shall be nonrefundable for applicants not qualifying for a license, except the fee is refundable when the applicant for a license already holds the license for which application is made and that license does not expire in the year the application is submitted.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.08; 125.185; 214.06*

History: *L 1995 1Sp3 art 16 s 13; 20 SR 2702; L 1998 c 397 art 11 s 3; 23 SR 1928; L 2003 c 112 art 2 s 50; L 2003 c 130 s 12*

8710.0300 ISSUANCE, RENEWAL, AND VALIDITY OF ALL LICENSES.

Subpart 1. **In general.** Licenses shall be granted by the Board of Teaching to applicants who otherwise meet all requirements of applicable statutes and rules.

An applicant must qualify separately for each licensure area for which application is made and provide evidence of satisfactory completion of a program in the licensure area which has been approved by the Board of Teaching. A license becomes valid on the date issued by the personnel licensing section.

Subp. 1a. **Types of licenses.** The Board of Teaching shall grant the following types of licenses which shall be valid for the period of time specified in this subpart:

A. professional license, which expires five years from the June 30 nearest the date the license is issued;

B. entrance license, which expires two years from the June 30 nearest the date the license is issued;

C. nonrenewable license, which expires no more than three years from the June 30 nearest the date the license is issued;

D. temporary limited license, which expires on June 30 of the school year for which the license is issued, except for a temporary limited license issued under part 8710.0400, subpart 4, which expires one year from the June 30 nearest the date the license is issued;

E. limited intern license, which expires on June 30 of the school year for which the license is issued;

F. five-year short call substitute teacher license, which expires five years from the June 30 nearest the date the license is issued;

G. temporary limited short call substitute teacher license, which expires two years from the June 30 nearest the date the license is issued; and

H. life license, which does not expire.

Effective with licenses issued on or after October 16, 2000, no person may hold a license under item C or D, or any combination of licenses under items C and D, for more than three years.

A license shall bear the date of issue and the date of expiration, and, if renewable, may be renewed on or after January 1 in the year of expiration upon application and meeting renewal requirements. A license shall expire if it is not renewed by July 1 in the year of expiration.

Subp. 2. **First professional license.** The first license which shall be issued in any licensure area to an applicant who meets all requirements of subpart 1 and who completes an approved program leading to licensure in a Minnesota institution which is approved by the Board of Teaching to prepare persons for licensure is a first professional license.

Subp. 2a. **Addition of professional license.** When a licensure area is added to a professional license in effect, the expiration date is that previously established for the professional license in effect.

Subp. 2b. **Multiple expiration dates.** If the licensee has completed and verified the professional license renewal requirements, a licensee may renew a year early for the purpose of correlating the expiration dates of professional licenses held.

Subp. 3. **Renewal of professional license.** A professional license shall be renewed upon application according to this chapter and chapter 8700 governing continuing education.

If an applicant has not been employed in a position requiring Minnesota licensure at any time during the school year immediately preceding the date of expiration, the applicant's professional license shall be renewed if one of the following is submitted:

A. verification by a local continuing education committee that the applicant has met renewal requirements for the professional license during the five-year period immediately preceding the application;

B. evidence that the applicant earned at least 12 quarter or eight semester hours of credit, applicable to the licensure fields, during the five-year period immediately preceding the application; or

C. if neither item A nor B is submitted, a one-year extension of the expired professional license may be granted based on evidence that the applicant has been offered a position contingent upon holding a valid license. This extension expires on June 30 of the school year for which the license is issued and is nonrenewable. In order to qualify for a professional license after the one-year extension, the applicant shall provide evidence that renewal requirements for the professional license have been met under item A.

Subp. 4. [Repealed, 25 SR 805]

Subp. 5. **Classroom teaching license.** For purposes of licensure rules that require holding a valid classroom teaching license as a prerequisite for issuance of an additional field of licensure, the definition of a "classroom teaching license" is a nonvocational license valid to teach elementary school, secondary school subjects, or kindergarten to grade 12 subjects, or a secondary vocational license based on degree requirements in home economics education, industrial education, agriculture education, business education, or marketing education. This definition does not include limited licenses, provisional licenses, intern licenses, special education licenses, family education licenses, prekindergarten licenses, postsecondary vocational licenses, or secondary vocational licenses based upon criteria other than degree requirements in home economics education, industrial education, agriculture education, business education, or marketing education. This definition also does not include licenses as school psychologists, school counselors, school social workers, school nurses, recreation personnel, school administrators, school business officers, community education directors, special education directors, or secondary vocational directors or supervisors.

Subp. 6. **Renewal of previously issued entrance license.** An applicant with a current or expired two-year entrance license who has not completed one year of teaching experience while holding a valid license may renew the entrance license for one additional two-year period only, after which time an applicant shall be granted a professional license. The professional license shall be renewed upon application according to the rules of the Board of Teaching governing continuing education. First time entrance licenses shall not be issued on or after October 16, 2000.

Subp. 7. **Licensure based on minor preparation.** A teacher holding a license that was first issued prior to September 1, 2001, and is valid for teaching in grades 7 through 12 based on Board of Teaching rules authorizing half-time teaching based on minor preparation may teach half time or less during the school day in any secondary school those subjects or fields in which the teacher holds licensure. Notwithstanding subpart 1a, any teacher holding licen-

sure valid for half-time teaching in grades 7 through 12 first issued after September 1, 1966, shall, within seven years after first issuance, acquire the minimum established by the Board of Teaching for major preparation based on rules authorizing the issuance of the original half-time license in order to continue to be licensed to teach in that subject or field.

Subp. 8. Validity of licenses held. A teacher holding secondary school licensure valid for teaching in grades 7 through 12 may teach in grades 7 and 8 of any school organizational pattern in those subjects or fields for which valid licensure is held. A teacher holding elementary school licensure valid for teaching in grades 1 through 6 may teach in grades 7 and 8 only if the teacher is providing instruction using a self-contained classroom teaching model. Any other license issued prior to September 1, 2001, is valid only for the grade level, licensure field, and school organizational pattern for which the license was first issued.

Subp. 9. Emergencies. If a person documents an emergency that prevents the person from completing rule requirements in order to continue to be licensed in that field, or if a school district or charter school documents an emergency for which no additional temporary limited licenses or personnel variances are permitted by rule, the Board of Teaching may take action to grant an emergency extension of time. Upon receiving an application for an extension of time, the Board of Teaching shall consider whether an extension of time shall be granted based on documentation of the emergency.

Subp. 10. Corrections. A license issued in error to a person who does not qualify for the license shall be corrected without charge to the licensee and the corrections shall be made without a hearing under part 8710.0900 and Minnesota Statutes, chapter 14. A license issued in error is not valid.

Subp. 11. Annual review. By September 1 of each year, the Board of Teaching shall issue an annual report summarizing the previous fiscal year's temporary limited licenses, personnel variances, waivers, and permissions to hire nonlicensed community experts, organized by licensure field and by school district or charter school.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *15 SR 2267; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805*

8710.0350 [Repealed, 25 SR 805]

8710.0400 APPLICANTS PREPARED OUTSIDE MINNESOTA.

Subpart 1. In general. A license to teach in Minnesota shall be granted to an applicant who otherwise meets applicable statutory requirements and who completes programs leading to licensure in a teacher preparation institution located outside Minnesota. A license shall be granted only in licensure fields for which the Board of Teaching has rules governing programs leading to licensure. A license shall be issued according to either subpart 2 or 3.

Subp. 2. Applicants prepared in states with contracts with Minnesota. An applicant who completes approved programs leading to licensure in teacher preparation institutions within states which have signed contracts with Minnesota according to the interstate agreement on qualification of educational personnel shall be granted a first Minnesota professional license. No license shall be issued on the basis of teaching experience only.

Subp. 3. Applicants prepared in states without contracts with Minnesota. An applicant who completes programs leading to licensure in teacher preparation institutions within states which have not signed contracts with Minnesota according to the interstate agreement on qualification of educational personnel shall be granted a first Minnesota professional license when the following criteria are met:

A. the teacher preparation institution is accredited by the regional association for the accreditation of colleges and secondary schools;

B. the program leading to licensure has been recognized by the other state as qualifying the applicant completing the program for current licensure within that state;

C. the program leading to licensure completed by the applicant is essentially equivalent in content to approved programs offered by Minnesota teacher preparation institutions according to Board of Teaching rules governing the licensure field and the grade level

range of preparation is the same as, greater than, or not more than one year less than the grade level range of the Minnesota licensure field for which application is made;

D. the teacher preparation institution which offers the program leading to licensure verifies that the applicant has completed an approved licensure program at that institution and recommends the applicant for a license in the licensure field and at the licensure level;

E. the applicant has completed a program leading to licensure as verified by an official transcript issued by the institution recommending the applicant for licensure;

F. the applicant has completed instruction in methods of teaching in the licensure field and at the licensure level of the program; and

G. the applicant has completed student teaching or essentially equivalent experience.

Subp. 3a. Applicants prepared outside United States. An applicant who completes a licensure program from a college or university outside the United States shall be granted a first Minnesota professional license when the following criteria are met:

A. the application packet includes a credential evaluation completed by a credential evaluator approved by the executive director of the Board of Teaching;

B. the licensure program completed by the applicant is essentially equivalent in content to approved programs offered by Minnesota teacher preparation institutions according to Board of Teaching rules governing the licensure field and the grade level range of preparation is the same as, greater than, or not more than one year less than the grade level range of the Minnesota licensure field for which application is made;

C. the applicant has completed instruction in methods of teaching in the licensure field and at the licensure level of the program; and

D. the applicant has completed student teaching or essentially equivalent experience.

Subp. 4. Exception for applicants who have not met part 8700.2700 or 8710.0500. An applicant who has completed a teacher licensure program outside Minnesota, has met the criteria of subpart 3 or 3a, but has not completed the requirements of part 8700.2700 or 8710.0500, or both, shall be granted a Minnesota temporary limited license based upon the provisions of this part.

An applicant who has completed a teacher licensure program outside Minnesota, has met the criteria of subpart 3 or 3a with the exception of the grade level range of the Minnesota licensure field for which application is made, but has not completed the requirements of part 8700.2700 or 8710.0500, or both, shall be granted a Minnesota temporary limited license based upon the provisions of this part. The license shall be issued for the grade level range of preparation, not to exceed the grade level range of the Minnesota licensure field for which application is made.

If part 8710.0500 has not been met upon expiration of the temporary limited license, a person may renew the temporary limited license twice. Each renewal of the temporary limited license requires the applicant to submit an official score report verifying having taken the skills area examination during the period of each temporary limited license and evidence of participating in an approved remedial assistance program provided by a school district or postsecondary institution that includes a formal diagnostic component in the specific areas in which the licensee did not obtain qualifying scores during the period of each temporary limited license.

Upon meeting this part and parts 8700.2700 and 8710.0500, including preparation for the grade level range of the Minnesota licensure field, a first professional license shall be granted.

Subp. 5. Exception for elementary education applicants who have not met specialty requirements. An applicant who has completed a teacher licensure program outside Minnesota that meets this part, but has not met the specialty requirements of part 8710.3200, subpart 4, for the license, shall be granted one of the following:

A. a nonrenewable license, valid for teaching elementary students in kindergarten through grade 6, if the applicant has met the requirements of parts 8700.2700, 8710.0500, and 8710.3200 for teaching elementary students in kindergarten through grade 6, but has not met the requirements of part 8710.3200, subpart 4; or

B. a temporary limited license, valid for teaching elementary students in kindergarten through grade 6, if the applicant has met the requirements of part 8710.3200 for teaching elementary students in kindergarten through grade 6, but has not met the requirements of part 8700.2700; 8710.0500; or 8710.3200, subpart 4.

A teacher issued a kindergarten through grade 6 nonrenewable license shall have two years from the expiration date of the first Minnesota license to complete the requirements for a specialty license required by part 8710.3200, subpart 4. A teacher issued a kindergarten through grade 6 temporary limited license may renew the license under subpart 4 if part 8710.0500 has not been met. No person may hold a nonrenewable license, a temporary limited license, or any combination of these licenses for more than three years. Upon meeting the requirements of this part and parts 8700.2700, 8710.0500, and 8710.3200, a first professional license shall be granted.

Subp. 6. Exception for applicants who have not met licensure level requirements. An applicant who has completed a teacher licensure program outside Minnesota that meets the requirements of this part, with the exception of the licensure level requirements of subpart 3, item C, or 3a, item B, shall be granted one of the following:

A. a nonrenewable license, in the licensure field at the grade level range of preparation, not to exceed the grade level range of the Minnesota licensure field for which application is made, if the applicant has met parts 8700.2700 and 8710.0500; or

B. a temporary limited license, in the licensure field at the grade level range of preparation, not to exceed the grade level range of the Minnesota licensure field for which application is made, if the applicant has met the requirements of this part, but has not met part 8700.2700 or 8710.0500.

A teacher issued a nonrenewable license shall have two years from the expiration date of the first Minnesota license to complete the requirements for teaching at the grade level range of the Minnesota licensure field. A teacher issued a temporary limited license may renew the license under subpart 4 if part 8710.0500 has not been met. No person may hold a nonrenewable license, a temporary limited license, or any combination of these licenses for more than three years. Upon meeting the requirements of this part and parts 8700.2700 and 8710.0500, and the licensure grade level range of the Minnesota licensure field, a first professional license shall be granted.

Subp. 7. Exception for applicants who have not met licensure requirements in part 8710.4250, 8710.4300, 8710.4750, or 8710.4800. An applicant for licensure as a teacher of communication arts and literature, a teacher of dance and theatre arts, a teacher of science, or a teacher of social studies who has completed a teacher licensure program outside Minnesota, who meets the requirements of this part with the exception of licensure level requirements of subpart 3, item C, or 3a, item B, shall be granted one of the following:

A. a nonrenewable license, in the licensure field, which shall be restricted for teaching only in the field of major preparation, if the applicant has met the requirements of parts 8700.2700 and 8710.0500, but has not met the requirements of part 8710.4250, 8710.4300, 8710.4750, or 8710.4800; or

B. a temporary limited license, in the licensure field, which shall be restricted for teaching only in the field of major preparation, if the applicant has not met the requirements of parts 8700.2700 and 8710.0500, and part 8710.4250, 8710.4300, 8710.4750, or 8710.4800.

A teacher issued a nonrenewable license shall have two years from the expiration date of the first Minnesota teaching license to complete the licensure requirements of part 8710.4250, 8710.4300, 8710.4750, or 8710.4800. A teacher issued a temporary limited license may renew the limited temporary license under subpart 4 if part 8710.0500 has not been met. No person may hold a nonrenewable license, a temporary limited license, or any combination of these licenses for more than three years. Upon meeting the requirements of this part, parts 8700.2700 and 8710.0500, and part 8710.4250, 8710.4300, 8710.4750, or 8710.4800, a first professional license in the licensure field shall be granted.

Subp. 8. Exception for applicants who have completed alternative preparation programs. An applicant who has completed a teacher licensure program outside Minnesota that meets the requirements of this part, with the exception of having completed the prepara-

tion program in a teacher preparation institution accredited by the regional association for the accreditation of colleges and secondary schools, shall be granted a first professional license. To meet the requirements of subpart 3, item D, if the applicant is unable to secure a teacher preparation institution recommendation for licensure, the preparation program that offers the program leading to licensure must verify that the applicant has completed the approved licensure program and must recommend the applicant for a license in the licensure field and at the licensure level. To meet the requirements of subpart 3, item E, if an official transcript verifying completion of the licensure program is not available, the preparation program must provide official documentation of the program leading to licensure and must verify that the applicant has completed the approved licensure program.

If the applicant has not completed the requirements for a first professional license, a temporary limited license or a nonrenewable license may be issued upon meeting the requirements of subpart 4, 5, 6, or 7.

Subp. 9. Exception for national board certified teachers. An applicant who provides evidence of current national board certification, but has not completed the requirements of part 8700.2700 or 8710.0500, shall be granted a temporary limited license. If the requirements of part 8710.0500 have not been met upon expiration, the temporary limited license may be renewed under subpart 4. The Board of Teaching shall accept current national board certification in a licensure field for which the Board of Teaching has established rules governing programs leading to licensure as evidence of having met the criteria of subpart 3, item C, or 3a, item B. If the applicant also provides evidence of current licensure from another state in the same field as national board certification is held, but at a different grade level designation, the Board of Teaching shall accept evidence of licensure and certification together as having met the requirements of subpart 3, item C, or 3a, item B, provided this evidence includes all grade level designations of the Board of Teaching licensure rule. Upon meeting the requirements of parts 8700.2700 and 8710.0500, a first professional license based on this subpart shall be granted.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.06; 125.185*

History: *11 SR 1793; 15 SR 2267; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805*

8710.0500 EXAMINATIONS FOR TEACHER LICENSES.

Subpart 1. Examination requirements.

A. An applicant for a first professional teaching license shall provide official evidence of having successfully completed examinations of skills in reading, writing, and mathematics before being issued an initial Minnesota professional teaching license. The examinations must have been adopted by the Board of Teaching. An applicant who is deaf must fulfill the mathematics requirement of this part by successfully completing the mathematics examination, and must fulfill the reading and writing requirements of this part either by successfully completing the reading and writing examinations or by evaluation by board approved colleges and universities of demonstrated proficiency (Intermediate Plus) in the expressive and receptive use of alternative communication systems including sign language and finger spelling as measured by the Sign Communication Proficiency Inventory (SCPI). This inventory is published by the National Technical Institute for the Deaf in Rochester, New York, and is administered through the College of Education at the University of Minnesota on at least an annual basis. A description of this inventory is available through the Minn-tex interlibrary loan system in the Journal of Sign Language Studies and American Annals for the Deaf. The inventory is incorporated by reference. It may be periodically changed. An applicant who is blind shall be required to fulfill requirements of this part by successfully completing the examinations with an opportunity to select a reader, to use adaptive visual aids or technology aids, and to complete the testing under adaptive conditions.

B. On or after September 1, 2001, an applicant for a first professional teaching license in any field shall provide evidence of having successfully completed an examination of general teaching knowledge and the examination required for the teaching field for which licensure is applied under this chapter. The examinations must have been adopted by the Board of Teaching. Teachers applying to add teaching fields to existing licenses must successfully complete the examination required for each teaching field to be added, but are not required to complete an examination of general teaching knowledge.

Subp. 2. **Selection and adoption.** The Board of Teaching shall solicit proposals for the development, validation, and implementation of teacher examinations under subpart 1. The Board of Teaching shall select the proposal of a party whose understanding of the project, statement of work to be performed, management plan, staffing, and related experience demonstrate the ability to develop, validate, and implement a statewide examination system and to conduct subsequent administrations of the adopted examinations. The Board of Teaching shall adopt examinations that have been validated by another state or reputable national testing organization and field tested in Minnesota.

Subp. 3. **Requirement.**

A. An applicant must achieve a minimum passing score on each examination required under subpart 1. The Board of Teaching shall establish a minimum passing score for each examination based on validation for use in Minnesota.

B. Notwithstanding item A, for applications submitted on or before August 31, 2002, examinations required under subpart 1, item B, shall have no minimum passing score. The Board of Teaching shall use test scores achieved by applicants on or before August 31, 2002, to establish minimum passing scores.

Subp. 4. **Notification.** Minimum passing scores applicants must achieve on the examinations and the identification of the examinations adopted shall be published in the State Register within 60 days of adoption by the Board of Teaching. Before July 2 of each calendar year, the Board of Teaching shall notify the colleges and universities approved by the board to prepare candidates for teacher licensure of the minimum passing score applicants must achieve on the examinations and which examinations are adopted under subpart 2.

Subp. 5. **Licensure recommendation.** In recommending candidates for licensure, Minnesota colleges and universities shall attest that license requirements have been met, including successful completion of all examinations required under this part.

Subp. 6. **Administration, scoring, and reporting.** Administration, scoring, and reporting of examinations shall be conducted by the party whose examinations have been adopted by the Board of Teaching. Applicants may take the examinations on any of the dates that are established by the party for national administration or on dates established by the Board of Teaching for special administration. Examinations shall be administered at least four times a year in Minnesota. It is the responsibility of the applicant to be informed about the dates and locations of the examinations and to apply for the appropriate examinations. Registration procedures are governed by the party whose examinations have been adopted. Examinees shall authorize the forwarding of their scores to the institutions they attend and to the Board of Teaching. The scores as forwarded are the official evidence required in this part.

Subp. 7. **Fees.** Candidates for licenses shall pay the examination fee approved by the Board of Teaching for the examinations they take.

Subp. 8. **Admission to upper division or graduate coursework.** Candidates for an initial license shall provide official evidence to the institutions they attend of having taken the examinations adopted under subpart 1, item A, before enrolling in upper division coursework in the professional education sequence. Candidates for an initial license who have a baccalaureate degree shall provide official evidence to the institutions they attend of having taken the examinations adopted under subpart 1, item A, before enrolling in coursework in the professional education sequence. Candidates who fail to achieve the minimum passing score on one or more of the examinations may enroll in upper division or graduate coursework in the professional education sequence; however, candidates must achieve the passing scores established under subpart 3 before recommendation for a first professional teaching license. Colleges and universities must provide candidates who fail the examinations access to opportunities to enhance their skills.

Subp. 9. [Repealed, 25 SR 877]

Subp. 10. **Retesting procedures.** Examinees who fail to achieve at least the minimum score on one or more of the examinations are permitted to retake the examination or examinations for which the minimum score was not achieved under this part. No minimum waiting time is required.

Subp. 11. **Applicants prepared outside Minnesota.** Applicants for Minnesota licensure who complete teacher preparation outside Minnesota but who have not met the requirements under subpart 1 and who otherwise meet the applicable statutes and rules shall be granted no more than three one-year temporary licenses. An applicant who has not achieved a minimum passing score on the examinations required under subpart 1, may renew a temporary license under this subpart if the applicant provides evidence of having taken all required examinations under subpart 1 and having enrolled in programs designed to assist the applicant to achieve the minimum passing scores. Applicants prepared outside Minnesota who provide evidence of meeting all examination requirements for professional Minnesota licensure shall be granted the professional teaching licenses for which they qualify.

Subp. 12. **Review and modification.** The Board of Teaching shall periodically review the examination system to determine whether the system meets the requirements of this part. Modifications by the Board of Teaching in the adoption of examinations or the minimum passing scores shall be published in the State Register. The modifications are effective for administration of the examinations 30 days after publication.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *11 SR 1793; 15 SR 2267; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805; 25 SR 877; 26 SR 700*

8710.0550 ADDITIONAL FIELDS OF LICENSURE.

Subpart 1. **In general.** A person who holds a life license; a current nonvocational entrance, professional, or nonrenewable license; or a current entrance or continuing secondary vocational license based on a degree program in agriculture education, business education, consumer homemaking and family life education, industrial education, or marketing education granted by the Board of Teaching may apply for an additional field of licensure upon meeting the rule requirements for the licensure field and level. A person who holds only a Board of Teaching license as an educational speech-language pathologist, school nurse, school psychologist, school social worker, or school counselor, or a secondary vocational license other than one based on a degree program in agriculture education, business education, consumer homemaking and family life education, industrial education, or marketing education must meet the rule requirements for the licensure field and level and part 8710.2000.

Subp. 2. **Middle level academic specialty.** A person may apply for licensure in a middle level academic specialty upon meeting the requirements of part 8710.3300 provided that the applicant holds one or more of the following classroom teaching licenses issued by the Board of Teaching: a life license; a current nonvocational entrance, professional, or nonrenewable license; or a current entrance or continuing secondary vocational license based on a degree program in agriculture education, business education, consumer homemaking and family life education, industrial education, or marketing education.

Subp. 3. **Kindergarten.** Until June 30, 2005, an applicant holding a current entrance or professional elementary teaching license first granted by the Board of Teaching prior to September 1, 2001, shall be granted kindergarten licensure upon submitting evidence of having completed requirements for methods of kindergarten education in a state-approved teacher preparation program at a college or university that is accredited by the regional association for the accreditation of colleges and secondary schools and a recommendation for kindergarten licensure from that college or university.

Subp. 4. **Exemption from teaching experience.** On or before August 31, 2001, the Board of Teaching shall waive the teaching experience requirement for all applicants for licensure as teachers of reading.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *25 SR 805*

8710.0600 PROCEDURES FOR ISSUANCE OF LIFE LICENSES.

Any teacher currently holding a valid license to teach granted by the Board of Teaching having a minimum of five years teaching experience in Minnesota, who was actually

employed as a classroom teacher or other similar professional employee on a regular contract in any one of three years immediately preceding July 1, 1969, may apply for and receive a life license for those grades, subjects, and fields for which Minnesota licensure was held prior to July 1, 1969, upon payment of a processing fee set by the Board of Teaching.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185; L 1983 c 314 art 7 s 46*

History: *15 SR 2267; L 1995 1Sp3 art 16 s 13; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805*

8710.0700 PROCEDURES FOR VOLUNTARY SURRENDER OF LICENSES.

Subpart 1. **Materials required to surrender license.** A person holding a license granted by the Board of Teaching may voluntarily surrender the license by submitting to the executive director of the Board of Teaching the following:

A. a written request to surrender which specifies the license or licenses to be surrendered;

B. the applicant copy of the license;

C. the school district copy of the license, together with a written statement that the designated administrator of the employing school district or charter school has been notified that the employer's copy of the license has been removed from the school district or charter school files; and

D. the required processing fee in part 8710.0200.

Subp. 2. **Surrender date.** When the executive director receives the materials listed in subpart 1 by January 1, the date of surrender is July 1 of that year. When the materials are received after January 1, the date of surrender is July 1 of the following calendar year. An applicant may revoke the request. The revocation must be made in writing to the executive director no later than December 31 of the year in which the request for voluntary surrender is received by the executive director.

Subp. 3. **When surrender is prohibited.** A person may not voluntarily surrender a license if any of the following exists:

A. the school board has commenced proceedings to terminate the continuing contract, pursuant to Minnesota Statutes, section 122A.40, subdivision 9 or 13, or 122A.41, subdivision 6;

B. the Board of Teaching has commenced proceedings to suspend or revoke the license pursuant to Minnesota Statutes, sections 122A.20 and 214.10 or part 8700.7500; or

C. any educational agency or board has commenced proceedings which could result in alteration of the status of the license due to the person's conduct.

Subp. 4. **First professional license after surrender.** A person whose Minnesota license has been voluntarily surrendered may apply for first professional licensure in the subject or field for which licensure was previously surrendered. A first professional license shall be granted to the applicant if the following criteria are met:

A. a licensure rule exists in the subject or field for which licensure was previously surrendered;

B. the applicant meets the first professional licensure standards which are in effect in the subject or field at the time of application and meets procedures set forth in Board of Teaching rules applicable to a first professional license; and

C. the required processing fee set forth in part 8710.0200 accompanies the application for first professional licensure.

Subp. 5. **Construction of rule.** Nothing in subparts 1 to 4 shall prohibit a person from holding or applying for a license in any subject or field upon surrender of a license in another subject or field.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *8 SR 244; 15 SR 2267; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805*

8710.0800 PROCEDURES FOR REVOCATION OR SUSPENSION OF ALL LICENSES.

Subpart 1. **Statutory requirements.** Licenses shall be revoked or suspended pursuant to the provisions of Minnesota Statutes, sections 122A.09 and 122A.20, or part 8700.7500.

Subp. 2. **Revocation.** Revocation shall include the cancellation or repeal of a license or renewal privilege. Revocation shall disqualify a person from teaching, or performing any other function, which is permitted on the basis of holding a license issued pursuant to the rules of the Board of Teaching. Revocation shall be final, except that a person whose license has been revoked may petition the Board of Teaching for a license pursuant to part 8710.0850, subpart 1.

Subp. 3. **Suspension.** Suspension shall include the temporary withdrawal of a license or renewal privilege. Suspension shall disqualify a person from teaching or performing any other function which is permitted on the basis of holding a license issued pursuant to the rules of the Board of Teaching. The length of each suspension and any terms and conditions attached thereto shall be determined by the Board of Teaching upon the consideration of the following factors:

- A. the activity of the individual which led to the license suspension;
- B. any relevant mitigating factors which the individual may interpose on the individual's behalf;
- C. the prior teaching record of the individual; and
- D. other similar factors.

Unless otherwise provided by the Board of Teaching, a revocation or suspension applies to each license or renewal privilege held by the individual at the time final action is taken by the Board of Teaching. A person whose license or renewal privilege has been suspended or revoked shall be ineligible to be issued any other license by the Board of Teaching during the pendency of the suspension or revocation.

Statutory Authority: *MS s 122A.09; 122A.18; 125.09; 125.185*

History: *17 SR 1279; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805*

8710.0850 ISSUANCE OR REINSTATEMENT OF LICENSE AFTER REVOCATION OR SUSPENSION.

Subpart 1. **After revocation.** A person whose license or renewal privilege has been revoked by the Board of Teaching may apply for and shall be granted a first professional license upon presentation of competent evidence that all terms and conditions which the board may have imposed have been fulfilled, and upon meeting current licensure standards.

Subp. 2. **After suspension.** A person whose license or renewal privilege has been suspended by the Board of Teaching may apply for reinstatement of that license in one of the following manners:

A. If the suspended license was a license which expired during the suspension, that license shall be renewed upon proper application after the period of suspension has expired provided that this chapter permits renewal of the license and that all renewal requirements have been met and upon presentation of competent evidence that all terms and conditions which the board may have imposed have been fulfilled.

B. If the suspended license was a license which has not expired during the suspension, the person may resume teaching or performing any other function which is permitted on the basis of holding a license granted by the Board of Teaching for whatever period of time remains on that license after the period of the suspension has expired and upon presentation of competent evidence that all terms and conditions which the board may have imposed have been fulfilled.

C. If the suspended license was a life license, the person may resume teaching or performing any other function which is permitted on the basis of holding a license granted by the Board of Teaching after the period of the suspension has expired and upon presentation of

competent evidence that all terms and conditions which the board may have imposed have been fulfilled.

Statutory Authority: *MS s 122A.09; 122A.18; 125.09; 125.185*

History: *L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805*

8710.0900 APPEAL TO BOARD OF TEACHING.

All persons denied issuance or renewal of licenses granted by the Board of Teaching, and all Minnesota teacher-preparing institutions denied program or institutional approval, and all persons licensed by the Minnesota Board of Teaching whose appeals are denied by the local committee for continuing education/relicensures, are hereby entitled to a hearing pursuant to Minnesota Statutes, chapter 14, on such denial and to a final decision by the Board of Teaching.

A person or an institution entitled to a hearing under the provisions of this part shall file a written request for such hearing with the executive secretary of the Board of Teaching within 30 days from the date of the denial. Failure to file a written request for a hearing within 30 days constitutes a waiver of the individual's right to a hearing.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *15 SR 2267; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805*

8710.1000 SUBSTITUTE TEACHERS.

Subpart 1. Long call substitute teacher. A long call substitute teacher is one who replaces the same teacher for 15 or more consecutive days. A long call substitute teacher shall hold a Minnesota license valid for the assignment.

Subp. 2. Short call substitute teacher. A short call substitute teacher is one who teaches on a day-to-day basis not to exceed 15 consecutive days replacing the same teacher. A short call substitute teacher shall hold a Minnesota license or short call substitute license. These licenses are valid for functioning as a short call substitute teacher at all grade levels in all fields.

Subp. 3. Criteria for issuance of five-year short call substitute teacher license. The Board of Teaching shall grant a five-year short call substitute teacher license to an applicant who has completed a teacher preparation program leading to full licensure in the governmental jurisdiction in which the teacher preparation program was completed.

Subp. 4. Criteria for issuance of temporary limited short call substitute teacher license. The Board of Teaching shall grant a temporary limited short call substitute teacher license to an applicant if it finds that the following conditions are met:

A. the designated administrator of an employing school district or charter school requests a temporary limited short call substitute teacher license;

B. the designated administrator of an employing school district or charter school verifies in writing that the school district or charter school is experiencing hardship in securing a sufficient number of licensed teachers to meet the need for short call substitute teachers; and

C. the applicant holds a baccalaureate degree from a United States college or university, or the equivalent.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *15 SR 2267; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805*

8710.1050 LIMITED INTERN LICENSES.

Subpart 1. Authority to issue limited intern licenses. The Board of Teaching authorizes the issuance of limited intern licenses that permit a person to serve as an intern under the direct supervision of a licensed teacher or other education professional licensed by the Board of Teaching for the equivalent of no more than one school year while completing a preparation program leading to Board of Teaching licensure. The limited intern license does not authorize the intern to serve as a teacher or other education professional.

Subp. 2. **Criteria for issuance.** The Board of Teaching shall grant a limited intern license authorized under subpart 1 to an applicant if it finds that the following conditions are met:

A. the designated administrator of the employing school district or charter school requests a limited intern license according to this part;

B. the designated administrator of the employing school district or charter school verifies in writing that:

(1) the intern position is designed to serve as a learning experience for a college or university student who is completing a preparation program leading to Board of Teaching licensure;

(2) the intern will be assigned to assist a licensed teacher or other education professional licensed by the Board of Teaching whose students are the responsibility of the licensed teacher or other licensed professional;

(3) the intern will serve under the direct, day-to-day supervision of a licensed teacher or other education professional licensed by the Board of Teaching, and will not serve as the classroom teacher or other education professional for students; and

(4) the intern will not replace a licensed teacher or other licensed professional; and

C. the applicant is recommended for limited intern licensure by a college or university approved by the Board of Teaching, verifying in writing that:

(1) the applicant is currently enrolled in an approved preparation program leading to Board of Teaching licensure and has completed at least three years of preparation required for licensure; and

(2) the college or university will assist in designing the learning experience and will provide supervision of the intern during the learning experience.

Subp. 3. **Validity and duration of limited intern licenses.** A limited intern license is issued for one school year or a portion of a school year from the date of issuance to the following June 30 and is valid for use in the requesting school district or charter school only. The license may be renewed once, upon application, if the intern must complete the equivalent of one school year of internship experience during the following school year. The license shall be revoked by the Board of Teaching when it has been demonstrated that the intent and purpose of the licensure have not been fulfilled.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *25 SR 805*

8710.1100 [Repealed, 25 SR 805]

8710.1200 [Repealed, 25 SR 805]

8710.1250 TEMPORARY LIMITED LICENSES.

Subpart 1. **Authority to issue temporary limited licenses.** The Board of Teaching authorizes the issuance of temporary limited licenses that permit a person to teach in an area for which the person has not completed an approved preparation program that leads to licensure by the Board of Teaching.

Subp. 2. **Criteria for issuance.** The Board of Teaching shall grant a temporary limited license authorized by subpart 1 to an applicant if it finds that the following conditions are met:

A. the designated administrator of the employing school district or charter school requests a temporary limited license according to this part;

B. the designated administrator of the employing school district or charter school verifies in writing that:

(1) no applicant holding a license in a subject or field for which a temporary limited license is requested can fulfill the requirements of the position;

(2) the position has been advertised, and if the position is one-half time or more, the position has been advertised statewide;

(3) the school district or charter school will provide a mentor to give support and assistance in necessary skill development for the person holding a temporary limited license;

(4) the applicant for whom the temporary limited license is requested holds a baccalaureate degree from a college or university accredited by the regional association for the accreditation of colleges and secondary schools; and

(5) the applicant has completed a college or university degree with at least a minor in the area for which teacher licensure is requested, or a degree directly related to the professional preparation for which educational speech/language pathology, school nurse, school psychologist, school social worker, or school counselor licensure is requested. An applicant for a temporary limited license as a school nurse must also provide evidence of current registration to practice as a licensed registered nurse and current registration as a public health nurse under the Board of Nursing. An applicant for a temporary limited license as a school social worker must also provide evidence of current licensure to practice as a social worker under the Board of Social Work.

Subp. 2a. Exception for temporary limited licenses for career and technical fields. Limited licenses shall be issued for teaching career and technical fields under parts 8710.8010 to 8710.8080 to applicants who do not meet the criteria defined in subpart 2, item B, subitem (4), if the employing school district verifies that the individual has completed specific training for and at least four years of full-time employment or the equivalent in an occupation of the employment field to be taught. Renewal of temporary limited licenses issued under this subpart must require evidence of the applicant's having completed eight semester credits toward full licensure within the previous year. All other provisions of this part apply.

Subp. 3. Validity and duration of temporary limited licenses. An application for a temporary limited license must not be submitted prior to August 1 of the school year for which it is requested. A temporary limited license is issued for one school year or a portion of a school year from the date of issuance to the following June 30 and is valid for use in the requesting school district or charter school only. If the requesting school district or charter school offers summer school, a temporary limited license that expires on June 30 is valid for teaching summer school in the year of expiration of the license.

Subp. 4. Number of temporary limited licenses allowed. Beginning with temporary limited licenses issued on or after October 16, 2000, no more than three temporary limited licenses shall be granted to an applicant under subpart 2 and no more than five temporary limited licenses shall be granted to an applicant under subpart 2a.

Subp. 5. Exception for applicants prepared in Minnesota teacher preparation institutions. A graduate of a Minnesota teacher preparation institution who has been granted a temporary limited license under subpart 2 but has not successfully completed the skills area examination may renew the temporary limited license two times. To renew a temporary limited license an applicant must:

A. provide an official score report which verifies having taken the examination during the period of each temporary limited license; and

B. provide evidence of participating in an approved remedial assistance program provided by a school district or postsecondary institution that includes a formal diagnostic component in the specific areas in which the applicant did not obtain qualifying scores during the period of each temporary limited license.

Subp. 6. Exception for applicants prepared outside Minnesota. An applicant who has completed a licensure program outside Minnesota may be granted a temporary limited license under part 8710.0400.

Statutory Authority: *MS s 14.388; 122A.09; 122A.18*

History: *25 SR 805; 26 SR 81; 26 SR 700*

8710.1300 [Repealed, 25 SR 805]

8710.1400 PERSONNEL VARIANCES.

Subpart 1. Authority to issue personnel variances. The Board of Teaching hereby authorizes the issuance of personnel variances which permit a teacher to teach in related sub-

jects or fields for which such teacher is not currently licensed. The designated administrator of a local school district or charter school may request the Board of Teaching to issue a personnel variance which permits a teacher to teach subjects or fields for which that teacher is not currently licensed.

Subp. 2. **Criteria for issuance.** A personnel variance authorized by subpart 1 shall be issued to the designated administrator of a school district or charter school if the following conditions are met:

A. the designated administrator of the school district or charter school requests a personnel variance according to this part;

B. the designated administrator of the school district or charter school verifies in writing that:

(1) reasonable efforts have been made to assign existing staff to fill the position with a fully licensed teacher;

(2) no applicant holding a teaching license in a subject or field for which a personnel variance is requested can fulfill the requirements of the position; and

(3) the position has been advertised, and if the position is one-half time or more, the position has been advertised statewide;

C. the teacher for whom the request is made holds a current valid Minnesota entrance, professional, or nonrenewable license granted by the Board of Teaching; and

D. the teacher for whom the request is made is aware of the assignment.

Subp. 2a. **Exceptions.** No personnel variances shall be granted based on holding a current valid Minnesota temporary limited license unless the temporary limited license was granted based on having met all requirements except part 8710.0500. No personnel variances shall be granted for educational speech/language pathologists, school counselors, school nurses, school psychologists, or school social workers.

Subp. 3. **Duration of personnel variance.** An application for a personnel variance must not be submitted prior to July 1 of the school year for which it is requested. A personnel variance is valid for one school year or a portion of a school year from the date of state approval to the following June 30. If the requesting school district or charter school offers summer school, the personnel variance that expires on June 30 is valid for teaching summer school in the year of expiration of the personnel variance.

Subp. 3a. **Number of personnel variances allowed.** Beginning with personnel variances issued on or after October 16, 2000, no more than three personnel variances shall be granted for any teacher to teach in subjects or fields for which the teacher is not licensed.

Subp. 4. **Written conditions for granting or denying personnel variance.** The Board of Teaching shall state in writing to the designated administrator of the school district or charter school the conditions for granting or denying the personnel variance requested pursuant to this part.

Statutory Authority: *MS s 14.388; 122A.09; 122A.18; 125.05; 125.185*

History: *L 1995 1Sp3 art 16 s 13; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 805; 26 SR 81*

8710.1410 NONRENEWABLE LICENSE.

Subpart 1. **Authority to issue nonrenewable license.** The Board of Teaching may issue a nonrenewable license that permits a licensed teacher to teach in a subject or field for which the teacher is not currently licensed. The designated administrator of a local school district or charter school may request the board to issue the teacher's nonrenewable license.

Subp. 2. **Criteria for issuance.** A nonrenewable license under subpart 1 shall be issued to the school district or charter school when the following conditions are met:

A. the designated administrator of the school district or charter school requests a nonrenewable license under this part;

B. the designated administrator of the school district or charter school in the application verifies in writing that:

(1) reasonable efforts have been made to assign existing staff to fill the position with a fully licensed teacher;

(2) no applicant holding a teaching license in the subject or field for which a nonrenewable license is requested can fulfill the requirements of the position;

(3) the position has been advertised, and if the position is one-half time or more, the position has been advertised statewide;

(4) the administrator on behalf of the licensed teacher will use the "High Objective Uniform State Standard of Evaluation" (HOUSSE) and those criteria as necessary and proper to demonstrate subject matter competence in the nonlicensed area as established by the Board of Teaching in collaboration with the Department of Education, and that the teacher meets the board's criteria;

(5) the district will provide for a high quality professional development plan for the teacher that is sustained and classroom-focused before and while teaching; and will provide ongoing support for the teacher or a teacher mentoring program; and

(6) the teacher is in an approved course of study and will complete the approved program by the end of the third school year;

C. the teacher for whom the request is made holds a current valid Minnesota entrance or professional license granted by the Board of Teaching; and

D. the teacher for whom the request is made understands the criteria of the assignment and is in an approved course of study or there is evidence to demonstrate the teacher is making application for an approved course of study.

Subp. 3. Exceptions. A nonrenewable license shall not be granted to a teacher holding a temporary limited license. A nonrenewable license shall not be granted to speech/language pathologists, school counselors, school nurses, school psychologists, or school social workers.

Subp. 4. Duration of nonrenewable license. An application for a nonrenewable license must not be submitted before the July 1 preceding the first school year for which it is requested. A nonrenewable license is valid for three school years from the date of state approval to the end of the third school year, June 30. If the requesting school district or charter school offers summer school, the nonrenewable license that expires on June 30 is valid for teaching summer school in the year of expiration of the nonrenewable license.

Subp. 5. Written conditions for granting or denying a nonrenewable license. The Board of Teaching shall state in writing to the designated administrator of the school district or charter school the conditions for granting or denying the nonrenewable license requested under this part.

Subp. 6. Approval for professional license. The board will issue a professional license to a teacher who has successfully completed all requirements under the board's jurisdiction as defined in Minnesota Statutes, section 122A.18.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *30 SR 504*

TEACHER STANDARDS

8710.2000 STANDARDS OF EFFECTIVE PRACTICE FOR TEACHERS.

Subpart 1. Standards. A candidate for teacher licensure shall show verification of completing the standards in subparts 2 to 11 in a teacher preparation program approved under part 8700.7600.

Subp. 2. Standard 1, subject matter. A teacher must understand the central concepts, tools of inquiry, and structures of the disciplines taught and be able to create learning experiences that make these aspects of subject matter meaningful for students. The teacher must:

A. understand major concepts, assumptions, debates, processes of inquiry, and ways of knowing that are central to the disciplines taught;

B. understand how students' conceptual frameworks and misconceptions for an area of knowledge can influence the students' learning;

- C. connect disciplinary knowledge to other subject areas and to everyday life;
- D. understand that subject matter knowledge is not a fixed body of facts but is complex and ever developing;
- E. use multiple representations and explanations of subject matter concepts to capture key ideas and link them to students' prior understandings;
- F. use varied viewpoints, theories, ways of knowing, and methods of inquiry in teaching subject matter concepts;
- G. evaluate teaching resources and curriculum materials for comprehensiveness, accuracy, and usefulness for presenting particular ideas and concepts;
- H. engage students in generating knowledge and testing hypotheses according to the methods of inquiry and standards of evidence used in the discipline;
- I. develop and use curricula that encourage students to understand, analyze, interpret, and apply ideas from varied perspectives; and
- J. design interdisciplinary learning experiences that allow students to integrate knowledge, skills, and methods of inquiry across several subject areas.

Subp. 3. Standard 2, student learning. A teacher must understand how students learn and develop and must provide learning opportunities that support a student's intellectual, social, and personal development. The teacher must:

- A. understand how students internalize knowledge, acquire skills, and develop thinking behaviors, and know how to use instructional strategies that promote student learning;
- B. understand that a student's physical, social, emotional, moral, and cognitive development influence learning and know how to address these factors when making instructional decisions;
- C. understand developmental progressions of learners and ranges of individual variation within the physical, social, emotional, moral, and cognitive domains, be able to identify levels of readiness in learning, and understand how development in any one domain may affect performance in others;
- D. use a student's strengths as a basis for growth, and a student's errors as opportunities for learning;
- E. assess both individual and group performance and design developmentally appropriate instruction that meets the student's current needs in the cognitive, social, emotional, moral, and physical domains;
- F. link new ideas to familiar ideas; make connections to a student's experiences; provide opportunities for active engagement, manipulation, and testing of ideas and materials; and encourage students to assume responsibility for shaping their learning tasks; and
- G. use a student's thinking and experiences as a resource in planning instructional activities by encouraging discussion, listening and responding to group interaction, and eliciting oral, written, and other samples of student thinking.

Subp. 4. Standard 3, diverse learners. A teacher must understand how students differ in their approaches to learning and create instructional opportunities that are adapted to students with diverse backgrounds and exceptionalities. The teacher must:

- A. understand and identify differences in approaches to learning and performance, including varied learning styles and performance modes and multiple intelligences; and know how to design instruction that uses a student's strengths as the basis for continued learning;
- B. know about areas of exceptionality in learning, including learning disabilities, perceptual difficulties, and special physical or mental challenges, gifts, and talents;
- C. know about the process of second language acquisition and about strategies to support the learning of students whose first language is not English;
- D. understand how to recognize and deal with dehumanizing biases, discrimination, prejudices, and institutional and personal racism and sexism;
- E. understand how a student's learning is influenced by individual experiences, talents, and prior learning, as well as language, culture, family, and community values;

F. understand the contributions and lifestyles of the various racial, cultural, and economic groups in our society;

G. understand the cultural content, world view, and concepts that comprise Minnesota-based American Indian tribal government, history, language, and culture;

H. understand cultural and community diversity; and know how to learn about and incorporate a student's experiences, cultures, and community resources into instruction;

I. understand that all students can and should learn at the highest possible levels and persist in helping all students achieve success;

J. know about community and cultural norms;

K. identify and design instruction appropriate to a student's stages of development, learning styles, strengths, and needs;

L. use teaching approaches that are sensitive to the varied experiences of students and that address different learning and performance modes;

M. accommodate a student's learning differences or needs regarding time and circumstances for work, tasks assigned, communication, and response modes;

N. identify when and how to access appropriate services or resources to meet exceptional learning needs;

O. use information about students' families, cultures, and communities as the basis for connecting instruction to students' experiences;

P. bring multiple perspectives to the discussion of subject matter, including attention to a student's personal, family, and community experiences and cultural norms; and

Q. develop a learning community in which individual differences are respected.

Subp. 5. **Standard 4, instructional strategies.** A teacher must understand and use a variety of instructional strategies to encourage student development of critical thinking, problem solving, and performance skills. The teacher must:

A. understand Minnesota's graduation standards and how to implement them;

B. understand the cognitive processes associated with various kinds of learning and how these processes can be stimulated;

C. understand principles and techniques, along with advantages and limitations, associated with various instructional strategies;

D. enhance learning through the use of a wide variety of materials and human and technological resources;

E. nurture the development of student critical thinking, independent problem solving, and performance capabilities;

F. demonstrate flexibility and reciprocity in the teaching process as necessary for adapting instruction to student responses, ideas, and needs;

G. design teaching strategies and materials to achieve different instructional purposes and to meet student needs including developmental stages, prior knowledge, learning styles, and interests;

H. use multiple teaching and learning strategies to engage students in active learning opportunities that promote the development of critical thinking, problem solving, and performance capabilities and that help students assume responsibility for identifying and using learning resources;

I. monitor and adjust strategies in response to learner feedback;

J. vary the instructional process to address the content and purposes of instruction and the needs of students;

K. develop a variety of clear, accurate presentations and representations of concepts, using alternative explanations to assist students' understanding and present varied perspectives to encourage critical thinking; and

L. use educational technology to broaden student knowledge about technology, to deliver instruction to students at different levels and paces, and to stimulate advanced levels of learning.

Subp. 6. **Standard 5, learning environment.** A teacher must be able to use an understanding of individual and group motivation and behavior to create learning environments

that encourage positive social interaction, active engagement in learning, and self-motivation. The teacher must:

A. understand human motivation and behavior and draw from the foundational sciences of psychology, anthropology, and sociology to develop strategies for organizing and supporting individual and group work;

B. understand how social groups function and influence people, and how people influence groups;

C. know how to create learning environments that contribute to the self-esteem of all persons and to positive interpersonal relations;

D. know how to help people work productively and cooperatively with each other in complex social settings;

E. understand the principles of effective classroom management and use a range of strategies to promote positive relationships, cooperation, and purposeful learning in the classroom;

F. know factors and situations that are likely to promote or diminish intrinsic motivation and how to help students become self-motivated;

G. understand how participation supports commitment;

H. establish a positive climate in the classroom and participate in maintaining a positive climate in the school as a whole;

I. establish peer relationships to promote learning;

J. recognize the relationship of intrinsic motivation to student lifelong growth and learning;

K. use different motivational strategies that are likely to encourage continuous development of individual learner abilities;

L. design and manage learning communities in which students assume responsibility for themselves and one another, participate in decision making, work both collaboratively and independently, and engage in purposeful learning activities;

M. engage students in individual and group learning activities that help them develop the motivation to achieve, by relating lessons to students' personal interests, allowing students to have choices in their learning, and leading students to ask questions and pursue problems that are meaningful to them and the learning;

N. organize, allocate, and manage the resources of time, space, activities, and attention to provide active engagement of all students in productive tasks;

O. maximize the amount of class time spent in learning by creating expectations and processes for communication and behavior along with a physical setting conducive to classroom goals;

P. develop expectations for student interactions, academic discussions, and individual and group responsibility that create a positive classroom climate of openness, mutual respect, support, inquiry, and learning;

Q. analyze the classroom environment and make decisions and adjustments to enhance social relationships, student motivation and engagement, and productive work; and

R. organize, prepare students for, and monitor independent and group work that allows for full, varied, and effective participation of all individuals.

Subp. 7. Standard 6, communication. A teacher must be able to use knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom. The teacher must:

A. understand communication theory, language development, and the role of language in learning;

B. understand how cultural and gender differences can affect communication in the classroom;

C. understand the importance of nonverbal as well as verbal communication;

D. know effective verbal, nonverbal, and media communication techniques;

E. understand the power of language for fostering self-expression, identity development, and learning;

- F. use effective listening techniques;
- G. foster sensitive communication by and among all students in the class;
- H. use effective communication strategies in conveying ideas and information and in asking questions;
- I. support and expand learner expression in speaking, writing, and other media;
- J. know how to ask questions and stimulate discussion in different ways for particular purposes, including probing for learner understanding, helping students articulate their ideas and thinking processes, promoting productive risk-taking and problem-solving, facilitating factual recall, encouraging convergent and divergent thinking, stimulating curiosity, and helping students to question; and
- K. use a variety of media communication tools, including audiovisual aids and computers, including educational technology, to enrich learning opportunities.

Subp. 8. **Standard 7, planning instruction.** A teacher must be able to plan and manage instruction based upon knowledge of subject matter, students, the community, and curriculum goals. The teacher must:

- A. understand learning theory, subject matter, curriculum development, and student development and know how to use this knowledge in planning instruction to meet curriculum goals;
- B. plan instruction using contextual considerations that bridge curriculum and student experiences;
- C. plan instructional programs that accommodate individual student learning styles and performance modes;
- D. create short-range and long-range plans that are linked to student needs and performance;
- E. plan instructional programs that accommodate individual student learning styles and performance modes;
- F. design lessons and activities that operate at multiple levels to meet the developmental and individual needs of students and to help all progress;
- G. implement learning experiences that are appropriate for curriculum goals, relevant to learners, and based on principles of effective instruction including activating student prior knowledge, anticipating preconceptions, encouraging exploration and problem solving, and building new skills on those previously acquired; and
- H. evaluate plans in relation to short-range and long-range goals, and systematically adjust plans to meet student needs and enhance learning.

Subp. 9. **Standard 8, assessment.** A teacher must understand and be able to use formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the student. The teacher must:

- A. be able to assess student performance toward achievement of the Minnesota graduation standards under chapter 3501;
- B. understand the characteristics, uses, advantages, and limitations of different types of assessments including criterion-referenced and norm-referenced instruments, traditional standardized and performance-based tests, observation systems, and assessments of student work;
- C. understand the purpose of and differences between assessment and evaluation;
- D. understand measurement theory and assessment-related issues, including validity, reliability, bias, and scoring concerns;
- E. select, construct, and use assessment strategies, instruments, and technology appropriate to the learning outcomes being evaluated and to other diagnostic purposes;
- F. use assessment to identify student strengths and promote student growth and to maximize student access to learning opportunities;
- G. use varied and appropriate formal and informal assessment techniques including observation, portfolios of student work, teacher-made tests, performance tasks, projects, student self-assessments, peer assessment, and standardized tests;

H. use assessment data and other information about student experiences, learning behaviors, needs, and progress to increase knowledge of students, evaluate student progress and performance, and modify teaching and learning strategies;

I. implement students' self-assessment activities to help them identify their own strengths and needs and to encourage them to set personal goals for learning;

J. evaluate the effect of class activities on both individuals and the class as a whole using information gained through observation of classroom interactions, questioning, and analysis of student work;

K. monitor teaching strategies and behaviors in relation to student success to modify plans and instructional approaches to achieve student goals;

L. establish and maintain student records of work and performance; and

M. responsibly communicate student progress based on appropriate indicators to students, parents or guardians, and other colleagues.

Subp. 10. **Standard 9, reflection and professional development.** A teacher must be a reflective practitioner who continually evaluates the effects of choices and actions on others, including students, parents, and other professionals in the learning community, and who actively seeks out opportunities for professional growth. The teacher must:

A. understand the historical and philosophical foundations of education;

B. understand methods of inquiry, self-assessment, and problem-solving strategies for use in professional self-assessment;

C. understand the influences of the teacher's behavior on student growth and learning;

D. know major areas of research on teaching and of resources available for professional development;

E. understand the role of reflection and self-assessment on continual learning;

F. understand the value of critical thinking and self-directed learning;

G. understand professional responsibility and the need to engage in and support appropriate professional practices for self and colleagues;

H. use classroom observation, information about students, and research as sources for evaluating the outcomes of teaching and learning and as a basis for reflecting on and revising practice;

I. use professional literature, colleagues, and other resources to support development as both a student and a teacher;

J. collaboratively use professional colleagues within the school and other professional arenas as supports for reflection, problem-solving, and new ideas, actively sharing experiences, and seeking and giving feedback;

K. understand standards of professional conduct in the Code of Ethics for Minnesota Teachers in part 8700.7500; and

L. understand the responsibility for obtaining and maintaining licensure, the role of the teacher as a public employee, and the purpose and contributions of educational organizations.

Subp. 11. **Standard 10, collaboration, ethics, and relationships.** A teacher must be able to communicate and interact with parents or guardians, families, school colleagues, and the community to support student learning and well-being. The teacher must:

A. understand schools as organizations within the larger community context and understand the operations of the relevant aspects of the systems within which the teacher works;

B. understand how factors in a student's environment outside of school, including family circumstances, community environments, health and economic conditions, may influence student life and learning;

C. understand student rights and teacher responsibilities to equal education, appropriate education for students with disabilities, confidentiality, privacy, appropriate treatment of students, and reporting in situations of known or suspected abuse or neglect;

D. understand the concept of addressing the needs of the whole learner;

E. understand the influence of use and misuse of tobacco, alcohol, drugs, and other chemicals on student life and learning;

F. understand data practices;

G. collaborate with other professionals to improve the overall learning environment for students;

H. collaborate in activities designed to make the entire school a productive learning environment;

I. consult with parents, counselors, teachers of other classes and activities within the school, and professionals in other community agencies to link student environments;

J. identify and use community resources to foster student learning;

K. establish productive relationships with parents and guardians in support of student learning and well-being; and

L. understand mandatory reporting laws and rules.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.3000 TEACHERS OF EARLY CHILDHOOD EDUCATION.

Subpart 1. **Scope of practice.** A teacher of early childhood education is authorized to design, implement, and evaluate developmentally appropriate learning experiences for young children from birth through grade 3 in a variety of early childhood settings and to collaborate with families, colleagues, and related service personnel to enhance the learning of all young children.

Subp. 2. **Licensure requirements.** A candidate for licensure in early childhood education for teaching young children from birth through age eight shall:

A. hold a baccalaureate degree from a college or university that is accredited by the regional association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of early childhood education in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of early childhood education must complete a preparation program under subpart 2, item C, that must include the demonstration of the knowledge and skills in items A to H.

A. A teacher of infant or toddler-aged, preprimary-aged, and primary-aged children must understand child development and learning, including:

(1) the research base for and the best practices of early childhood education;

(2) the physical, social, emotional, language, cognitive, and creative development of young children from birth through age eight;

(3) how young children differ in their development and approaches to learning to support the development and learning of individual children;

(4) the major theories of early childhood development and learning and their implications for practice with young children and families from birth through age eight;

(5) the concepts of "belonging" and "family connectedness" as crucial to the development of young children;

(6) that children are best understood in the contexts of family, culture, and society; and

(7) the interrelationships among culture, language, and thought and the function of the home language in the development of young children.

B. A teacher of infants and toddlers plans, designs, and implements developmentally appropriate learning experiences. The teacher must understand:

(1) the unique developmental milestones associated with young infants 0 to 9 months, mobile infants 8 to 18 months, and toddlers 16 to 36 months;

- (2) the need to build and maintain a primary care relationship with each infant and toddler;
- (3) how to build and maintain positive care giving relationships with infants and toddlers in groups;
- (4) how to use observation skills to determine infants' and toddlers' needs, interests, preferences, and particular ways of responding to people and things;
- (5) strategies for developing an appropriate learning environment that:
- (a) meet the physical needs of infants and toddlers through small and large group muscle play, feeding, diapering and toileting, and rest, including:
 - i. health and safety procedures and universal precautions to limit the spread of infectious diseases;
 - ii. symptoms of common illness and environmental hazards;
 - iii. how to evaluate infant and toddler environments to ensure the physical and emotional safety of children in care; and
 - iv. how to use environmental factors and conditions to promote the health, safety, and physical development of infants and toddlers;
 - (b) use scheduling and daily routines to meet infants' and toddlers' needs for balance in predictable active and quiet activities, social and solitary experiences, reliable transitions, and rest;
 - (c) use educational materials for infants and toddlers that balance needs for growing independence and active exploration with the need for safety and health;
 - (d) create learning experiences that incorporate the infants' and toddlers' cultural and home experiences; and
 - (e) use guidance and management techniques to accommodate the developmental characteristics of infants and toddlers and to support their need for a sense of security and self-esteem;
- (6) strategies for assessing an infant's or toddler's emerging level of cognitive development and how to use this information to establish individual cognitive development goals and design developmentally appropriate learning experiences that:
- (a) facilitate the acquisition of skills to acquire, organize, and use information in increasingly complex ways;
 - (b) create experiences that enable infants and toddlers to use play as an organizer between the acquisition and use of information;
 - (c) encourage curiosity and exploration;
 - (d) support development of language and communication skills;
 - (e) provide opportunities for infants and toddlers to use self-initiated repetition to practice newly acquired skills and to experience feelings of autonomy and success;
 - (f) enhance infants' and toddlers' emerging knowledge of cause and effect and spatial relations;
 - (g) encourage self-expression through developmentally appropriate music, movement, dramatic, and creative art experiences; and
 - (h) provide a foundation for literacy and numeracy development through daily exposure to books, stories, language experiences, and activities that involve object relationships;
- (7) strategies for assessing an infant's or toddler's emerging level of social and emotional development and how to use this information to establish individual social and emotional development goals and design developmentally appropriate learning experiences that:
- (a) establish environments in which responsive and predictable interaction sequences occur;
 - (b) structure the classroom to promote positive, constructive interactions between and among children;
 - (c) promote healthy peer relationships;

(d) adapt a pattern of care to meet infants' and toddlers' rapidly changing needs;

(e) emphasize caregiving routines that allow for interaction and visual and tactile learning;

(f) facilitate the development of infants' and toddlers' self-esteem; and

(g) provide continuity and consistency of affectionate care for infants and toddlers;

(8) strategies for assessing an infant's or toddler's emerging level of physical development and how to use this information to establish individual physical development goals and design developmentally appropriate learning experiences that:

(a) foster a positive attitude toward activity;

(b) enhance infants' and toddlers' perceptual skills, balance and coordination, and flexibility, strength, and endurance; and

(c) create environments that provide opportunities for active physical exploration and the development of emerging fine and gross motor skills;

(9) strategies for assessing an infant's or toddler's emerging level of creative development and how to use this information to establish individual creative development goals and design developmentally appropriate learning experiences that:

(a) enhance infants' and toddlers' abilities to create their own ideas and solve problems through art, music, movement, dramatic play, and other creative activities;

(b) develop experiences that encourage initiative, creativity, autonomy, and self-esteem, integrating adult support, comfort, and affection to facilitate these aspects of development; and

(c) create an environment where infants and toddlers are able to explore and expand their creative abilities.

C. A teacher of young children in preprimary classrooms plans, designs, and implements developmentally appropriate learning experiences. The teacher must understand:

(1) the cognitive, social and emotional, physical, and creative development of preprimary-aged children and how children's development and learning are integrated;

(2) the development of infants and toddlers and its effects on the learning and development of preprimary-aged children;

(3) how to establish and maintain physically and psychologically safe and healthy learning environments for preprimary-aged children that:

(a) acknowledge the influence of the physical setting, schedule, routines, and transitions on children and use these experiences to promote children's development and learning;

(b) acknowledge the developmental consequences of stress and trauma, protective factors and resilience, and the development of mental health, and the importance of supportive relationships;

(c) acknowledge basic health, nutrition, and safety management practices for young children, including procedures regarding childhood illness and communicable disease;

(d) use appropriate health appraisal procedures and how to recommend referrals to appropriate community health and social services when necessary; and

(e) recognize signs of emotional distress, child abuse, and neglect in young children and know responsibility and procedures for reporting known or suspected abuse or neglect to appropriate authorities;

(4) how to plan and implement appropriate curriculum and instructional practices based on developmental knowledge of individual preprimary-aged children, the community, and the curriculum goals and content, including how to use:

(a) developmentally appropriate methods that include play, small group projects, open-ended questioning, group discussion, problem solving, cooperative learning, and inquiry experiences to help children develop curiosity, solve problems, and make decisions; and

(b) knowledge of the sequence of development to create and implement meaningful, integrated learning experiences using children's ideas, needs, interests, culture, and home experiences;

(5) strategies for assessing a preprimary-aged child's emerging level of cognitive development and how to use this information to establish individual cognitive development goals and design developmentally appropriate learning experiences that:

(a) facilitate the acquisition of skills to acquire, organize, and use information in increasingly complex ways;

(b) create experiences that enable preprimary-aged children to use play as an organizer between the acquisition and use of information;

(c) extend children's thinking and learning and move them to higher levels of functioning;

(d) assist children to plan, evaluate, reflect on, revisit, and build on their own experiences;

(e) allow children to construct understanding or relationships among objects, people, and events;

(f) encourage the use and construction of numeracy skills;

(g) encourage the development of language and communication skills;

(h) encourage the use and construction of literacy skills; and

(i) allow children to construct knowledge of the physical world, manipulate objects for desired effects, and understand cause-and-effect relationships;

(6) strategies for assessing a preprimary-aged child's emerging level of social and emotional development and how to use this information to establish individual social and emotional development goals and design developmentally appropriate learning experiences that:

(a) establish environments in which responsive and predictable interaction sequences occur;

(b) structure the classroom to promote positive and constructive interactions among children;

(c) promote healthy peer relationships;

(d) build in each child a sense of belonging, security, personal worth, and self-confidence toward learning;

(e) allow for the construction of social knowledge, such as cooperating, helping, negotiating, and talking with others to solve problems;

(f) facilitate the development of self-acceptance, self-control, and social responsiveness in children through the use of positive guidance techniques; and

(g) promote children's understanding, acceptance, and appreciation of human differences due to social, cultural, physical, or developmental factors;

(7) strategies for assessing a preprimary-aged child's emerging level of physical development and how to use this information to establish individual physical development goals and design developmentally appropriate learning experiences that:

(a) foster a positive attitude toward physical activity;

(b) enhance preprimary-aged children's perceptual skills; balance and coordination; and flexibility, strength, and endurance;

(c) support age-appropriate risk-taking within safe boundaries;

(d) assist children in becoming competent in acquiring basic gross and fine motor skills;

(e) facilitate children's understanding of maintaining a desirable level of nutrition, health, fitness, and physical safety; and

(f) meet children's physiological needs for activity, sensory stimulation, fresh air, rest, hygiene, and nourishment and elimination; and

(8) strategies for assessing a preprimary-aged child's emerging level of creative development and how to use this information to establish individual creative development goals and design developmentally appropriate learning experiences that:

- (a) help children develop and sustain curiosity about the world including past, present, and future events, trends, relationships, and understandings;
- (b) build children's confidence, creativity, imagination, personal expression of thoughts and feelings, initiative, and persistence in task completion;
- (c) encourage children to express ideas and feelings;
- (d) provide children with opportunities to use materials in self-selected and self-directed ways;
- (e) use open-ended activities to reinforce positive self-esteem and individuality among children; and
- (f) promote shared problem solving, creativity, and conceptual integration among children.

D. A teacher of young children in the primary grades plans, designs, and implements developmentally appropriate learning experiences. The teacher must understand:

(1) the cognitive, social and emotional, physical, and creative development of primary-aged children and how children's development and learning are integrated;

(2) how to establish and maintain physically and psychologically safe and healthy learning environments for primary-aged children that:

(a) acknowledge the influence of the physical setting, scheduling, routines, and transitions on children and use these experiences to promote young children's development and learning;

(b) acknowledge developmental consequences of stress and trauma, protective factors and resilience, and the development of mental health and the acceptance of supportive relationships;

(c) acknowledge basic health, nutrition, and safety management practices for primary-aged children, including procedures regarding childhood illness and communicable diseases; and

(d) recognize signs of emotional distress, child abuse, and neglect in young children and know responsibility and procedures for reporting known or suspected abuse or neglect to appropriate authorities;

(3) how to create learning environments that emphasize play, active manipulation of concrete materials, child choice and decision making, exploration of the environment, and interactions with others;

(4) the central concepts and tools of inquiry for teaching language and literacy, including how to:

(a) use teaching practices that support and enhance literacy development at all developmental levels;

(b) use appropriate techniques for broadening the listening, speaking, reading, and writing vocabularies of primary-aged children;

(c) help children use phonemic, semantic, and graphemic cuing systems during literacy learning activities;

(d) develop primary-aged children's ability to use spoken, visual, and written language to communicate with a variety of audiences for different purposes;

(e) communicate with adult caregivers of primary-aged children about concepts of language and literacy development and age-appropriate learning materials; and

(f) use a variety of strategies to present, interpret, and elicit responses to primary-aged children's literature;

(5) the central concepts and tools of inquiry for teaching mathematics, including:

(a) the use and understanding of mathematics and of how primary-aged children learn mathematics to guide instruction that develops children's understanding of number sense and number systems, geometry, and measurement;

(b) planning activities that develop primary-aged children's understanding of mathematics and increases their ability to apply mathematics to everyday problems;

(c) helping primary-aged children experience mathematics as a way to explore and solve problems in their environment at home and in school through open-ended work that includes child-invented strategies with different problems, games, and authentic situations;

(d) selecting and creating a variety of resources, materials, and activities for counting and studying patterns and mathematical relationships;

(e) building learning environments where children can construct their own knowledge for learning mathematics;

(f) providing objects, counters, charts, graphs, and other materials to help primary-aged children express ideas, and represent and record problem solving through numbers and symbols;

(g) using field trips, science experiments, cooking and snack times, sports, and games to use mathematics to solve problems, to symbolize phenomena and relationships, and to communicate quantitative information; and

(h) asking questions to clarify how primary-aged children perceive a problem, develop a strategy, and understand different approaches to reasoning and thinking in mathematics;

(6) the central concepts and tools of inquiry for teaching science, including:

(a) supporting primary-aged children's enthusiasm, wonder, and curiosity about the world and increase their understanding of the world;

(b) building on primary-aged children's capabilities for using their senses to acquire information by examining, exploring, comparing, classifying, describing, and asking questions about materials and events in their environment;

(c) creating engaging and useful interdisciplinary projects that introduce primary-aged children to the major ideas of science;

(d) encouraging primary-aged children to make predictions, gather and classify data, carry out investigations, make observations, and test ideas about natural phenomena and materials; and

(e) designing experiences to help primary-aged children construct and build their knowledge of science;

(7) the central concepts and tools of inquiry for teaching social studies, including:

(a) building on primary-aged children's experiences in their classrooms, homes, and communities to enrich understandings about social relationships and phenomena;

(b) leading primary-aged children to examine and discuss similarities, common interests, and needs and important differences among peoples, communities, and nations; and

(c) promoting social development, democratic ideals, civic values, cooperative relationships, and mutual respect within the school community while helping primary-aged children grow as citizens;

(8) the central concepts and tools of inquiry for teaching visual and performing arts, including:

(a) providing primary-aged children with the time, materials, and opportunities to explore, manipulate, and create using a variety of media;

(b) providing primary-aged children with experiences producing, discussing, and enjoying various forms of the arts, including visual art, music, creative drama, and dance;

(c) enabling primary-aged children to understand how the arts represent different ways to perceive and interpret the world;

(d) promoting primary-aged children's knowledge of various criteria for evaluating the arts; and

(e) using a variety of artistic materials and techniques for discussing, experiencing, and thinking about important and interesting questions and phenomena with primary-aged children; and

(9) the central concepts and tools of inquiry for teaching health and physical education, including:

(a) providing experiences to encourage personal and community health promotion, disease prevention, and safety;

(b) applying movement concepts and principles to the learning and development of motor skills; and

(c) encouraging the development of a health-enhancing level of physical fitness.

E. A teacher of young children establishes and maintains positive, collaborative relationships with families. The teacher must understand:

(1) the need to respect families' choices and goals for their children and the need to communicate with families about curriculum and their children's progress;

(2) the need to be sensitive to differences in family structures and social and cultural backgrounds;

(3) theories of families and dynamics, roles, and relationships within families and between families and communities;

(4) how to support families in assessing educational options and in making decisions related to child development and parenting; and

(5) how to link families with a range of family-oriented services based on identified resources, priorities, and concerns.

F. A teacher of young children uses informal and formal assessment and evaluation strategies to plan and individualize curriculum and teaching practices. The teacher must understand:

(1) observing, recording, and assessing young children's development and learning and engage children in self-assessment;

(2) using information gained by observation of family dynamics and relationships to support the child's learning;

(3) using assessment results to identify needs and learning styles and to plan appropriate programs, environments, and interactions; and

(4) developing and using formative and summative program evaluation instruments to enhance and maintain comprehensive program quality for children, families, and the community.

G. A teacher of young children understands historical and contemporary development of early childhood education. The teacher must understand:

(1) the multiple historical, philosophical, and social foundations of early childhood education and how these foundations influence current thought and practice; and

(2) the effects of societal conditions on children and families, and current issues and trends, legal issues, and legislation and other public policies affecting children, families, and programs for young children and the early childhood profession.

H. The teacher of young children applies effective teaching practices for teaching young children through a variety of early and ongoing clinical experiences with infant and toddler, preprimary-aged, and primary-aged children within a range of educational programming models.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to the Board of Teaching rules governing continuing licensure.

Subp. 5. **Effective date.** The requirements in this part for licensure as a teacher of early childhood education are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.3100 TEACHERS OF PARENT AND FAMILY EDUCATION.

Subpart 1. **Scope of practice.** A teacher of parent and family education is authorized to instruct parents in an early childhood family education program.

Subp. 2. Licensure requirements. A candidate for licensure to teach parent and family education in an early childhood family education program shall:

A. hold a baccalaureate degree from a college or university that is accredited by the regional association for accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of parent and family education in subpart 3.

Subp. 3. Subject matter standard. A candidate for licensure as a teacher of parent and family education must complete a preparation program under subpart 2, item C, that includes the candidate's demonstration of the knowledge and skills in items A to D.

A. A teacher of parent and family education must understand families:

- (1) the parent's role as primary socializer and educator of the family;
- (2) theories of family dynamics;
- (3) family communication;
- (4) family structures;
- (5) family strengths from multiple perspectives;
- (6) human sexual behavior;
- (7) gender roles;
- (8) family decision-making and problem-solving processes;
- (9) the effects of disabilities on family relationships;
- (10) the reciprocal relationships between family and community;
- (11) the effects of culture and ethnicity on family relationships;
- (12) the interaction of socioeconomic situations and family dynamics;
- (13) the influence of public policies on families;
- (14) influence of the social and historical climate on families; and
- (15) the effects of change and loss on family functioning.

B. A teacher of parent and family education must understand parent-child relationships:

- (1) multidisciplinary descriptions of parenting practices and healthy parent-child relationships;
- (2) theories of parent-child interaction;
- (3) the reciprocal nature of parent-child relationships;
- (4) the impact of parent expectations, practices, and behaviors on the child's development;
- (5) the impact of work and other external influences on parental behaviors;
- (6) stages of parenting across the life span;
- (7) mother-child, father-child, and other primary caregiver-child relationships;
- (8) the influence of adult partner relationships on parent-child relationships;
- (9) the signs of emotional distress, abuse, and neglect in parent-child relationships;
- (10) specific family situations, for example, single parenting, stepparenting, adolescent parenting, adoptive parenting, grandparenting, and the effects of disabilities on parenting; and
- (11) the effects of culture and ethnicity on parent-child relationships.

C. A teacher of parent and family education must understand child development:

- (1) theories of child development;
- (2) social, psychological, physical, cognitive, language, and moral development;

- (3) individual differences among children;
- (4) the effects of disabilities on child development;
- (5) the influence of culture, community, and experiences on development;
- (6) the formation of a child's self-identity and self-esteem;
- (7) the role of play in child development;
- (8) sexuality development;
- (9) developmentally appropriate learning environments, activities, and interactions; and
- (10) the effects of health and nutrition on child development.

D. A teacher of parent and family education must understand adult development:

- (1) that each adult is unique and exhibits individual patterns of development influenced by physical, social, cultural, psychological, and experiential factors;
- (2) biological changes in adulthood and developmental aspects of aging and the impact on adult learning;
- (3) adult learning and learning styles, adult cognitive development, and use of instructional strategies that promote adult learning and development;
- (4) theories of adult development and how to apply theory when making instructional decisions; and
- (5) how to apply the standards of effective practice in teaching adult students through a series of formal observations and directed instructional experiences with adults participating in early childhood and family education programs.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements in this part for licensure as a teacher of parent and family education are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.3200 TEACHERS OF ELEMENTARY EDUCATION WITH A SPECIALTY.

Subpart 1. **Scope of practice.** The teacher of elementary education is authorized to teach all subjects to children in kindergarten through grade 6 and:

- A. preprimary children age three and above;
- B. a selected academic specialty in communication arts and literature, mathematics, science, or social studies to young adolescents in grades 5 through 8; or
- C. a world language and culture in kindergarten through grade 8.

The specialty in this subpart for which the teacher is licensed shall be identified on the teacher's license.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach elementary students in kindergarten through grade 6 and for licensure to teach preprimary children age three and above, a selected academic specialty to young adolescents in grades 5 through 8, or a world language and culture in kindergarten through grade 8 shall:

- A. hold a baccalaureate degree from a college or university that is accredited by the regional association for the accreditation of colleges and secondary schools;
- B. demonstrate the standards for effective practice for licensing of beginning teachers listed in part 8710.2000; and
- C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of elementary education in kindergarten through grade 6 in subpart 3 and a specialty in subpart 4.

Subp. 3. **Subject matter standards, elementary education.** A candidate must complete a preparation program for licensure under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to G and in at least one of subpart 4, items A to F.

A. A teacher of children in kindergarten through grade 6 and either preprimary children age three and above, young adolescents in grades 5 through 8, or a world language and culture in kindergarten through grade 8 must:

(1) understand and apply the research base for and the best practices of kindergarten, elementary, and preprimary or middle level education;

(2) understand and apply educational principles relevant to physical, social, emotional, moral, and cognitive development of young children through young adolescents;

(3) understand and apply the concepts of “belonging” and “family connectedness” as crucial to the development of young children through young adolescents;

(4) understand and apply the process and necessity of collaboration with families and other adults in support of the learning of young children through young adolescents;

(5) understand how to integrate curriculum across subject areas in developmentally appropriate ways; and

(6) apply the standards of effective practice in teaching students in kindergarten through grade 6 and in either preprimary or middle level through a variety of early and ongoing clinical experiences with kindergarten or primary and intermediate students and either preprimary or middle level students within a range of educational programming models.

B. A teacher of children in kindergarten through grade 6 must demonstrate the knowledge of fundamental concepts of communication arts and literature and the connections between them. The teacher must:

(1) develop the skills and understanding to teach reading, writing, speaking, listening, media literacy, and literature;

(2) understand and apply teaching methods related to the developmental stages of language;

(3) use a variety of strategies to develop a student’s ability to read with fluency and comprehension;

(4) use a variety of developmentally appropriate techniques for augmenting the listening, speaking, reading, and writing vocabularies of children;

(5) use a variety of appropriate strategies, techniques, and skills for developing comprehension;

(6) know how to integrate the communication arts;

(7) develop children’s use of a process to write competently with confidence, accuracy, and imagination appropriate to the purpose and audience;

(8) develop children’s ability to use written, spoken, and visual language to communicate effectively with a variety of audiences and for different purposes;

(9) know children’s and young adolescents’ literature representing a variety of genre;

(10) know how to use books and other printed sources to develop children’s and young adolescents’ personal growth and lifelong learning;

(11) integrate the instruction of reading into all content areas; and

(12) use a variety of developmentally appropriate techniques for the application of textual and technological learning experiences.

C. A teacher of children in kindergarten through grade 6 must demonstrate knowledge of fundamental concepts of mathematics and the connections between them. The teacher must know and apply:

(1) concepts of mathematical patterns, relations, and functions, including the importance of number and geometric patterns in mathematics and the importance of the educational link between primary school activities with patterns and the later conceptual development of important ideas related to functions and be able to:

(a) identify and justify observed patterns;

(b) generate patterns to demonstrate a variety of relationships; and

(c) relate patterns in one strand of mathematics to patterns across the discipline;

(2) concepts and techniques of discrete mathematics and how to use them to solve problems from areas including graph theory, combinatorics, and recursion and know how to:

(a) help students investigate situations that involve counting finite sets, calculating probabilities, tracing paths in network graphs, and analyzing iterative procedures; and

(b) apply these ideas and methods in settings as diverse as the mathematics of finance, population dynamics, and optimal planning;

(3) concepts of numerical literacy:

(a) possess number sense and be able to use numbers to quantify concepts in the students' world;

(b) understand a variety of computational procedures and how to use them in examining the reasonableness of the students' answers;

(c) understand the concepts of number theory including divisibility, factors, multiples, and prime numbers, and know how to provide a basis for exploring number relationships; and

(d) understand the relationships of integers and their properties that can be explored and generalized to other mathematical domains;

(4) concepts of space and shape:

(a) understand the properties and relationships of geometric figures;

(b) understand geometry and measurement from both abstract and concrete perspectives and identify real world applications; and

(c) know how to use geometric learning tools such as geoboards, compass and straight edge, ruler and protractor, patty paper, reflection tools, spheres, and platonic solids;

(5) data investigations:

(a) use a variety of conceptual and procedural tools for collecting, organizing, and reasoning about data;

(b) apply numerical and graphical techniques for representing and summarizing data;

(c) interpret and draw inferences from data and make decisions in a wide range of applied problem situations; and

(d) help students understand quantitative and qualitative approaches to answering questions and develop students' abilities to communicate mathematically;

(6) concepts of randomness and uncertainty:

(a) probability as a way of describing chance in simple and compound events; and

(b) the role of randomness and sampling in experimental studies;

(7) mathematical processes:

(a) know how to reason mathematically, solve problems, and communicate mathematics effectively at different levels of formality;

(b) understand the connections among mathematical concepts and procedures, as well as their application to the real world;

(c) understand the relationship between mathematics and other fields; and

(d) understand and apply problem solving, reasoning, communication, and connections; and

(8) mathematical perspectives:

(a) understand the history of mathematics and the interaction between different cultures and mathematics; and

(b) know how to integrate technological and nontechnological tools with mathematics.

D. A teacher of children in kindergarten through grade 6 must demonstrate knowledge of fundamental social studies concepts and the connections among them. The teacher must know and apply:

- (1) tools of inquiry and problem solving;
- (2) concepts of:
 - (a) culture and cultural diversity;
 - (b) the ways human beings view themselves in and over time;
 - (c) the interaction between people, places, and environments;
 - (d) individual development and identity;
 - (e) interactions among individuals, groups, and institutions;
 - (f) how people create and change structures of power and authority and of governance;
 - (g) how people organize for the production, distribution, and consumption of goods and services and how those choices impact the environment;
 - (h) the relationships among science, technology, and society;
 - (i) global connections and independence; and
 - (j) the ideals, principles, and practices that promote productive community involvement;
- (3) history, government, and culture of Minnesota-based American Indian tribes as integrating concepts throughout the elementary curriculum; and
- (4) the environment as an integrating concept through understanding of how to use the sciences, social sciences, mathematics, arts, and communications in the exploration of environmental issues and topics.

E. A teacher of children in kindergarten through grade 6 must demonstrate a fundamental knowledge of scientific perspectives, scientific connections, science in personal and social perspectives, the domains of science, and the methods and materials for teaching science and scientific inquiry. The teacher must:

- (1) understand science as a human endeavor, the nature of scientific knowledge, and the historical perspective of science;
- (2) know and apply the understandings and abilities of scientific inquiry including the ability to:
 - (a) identify questions and concepts that can be explored through scientific inquiry;
 - (b) design and conduct scientific investigations;
 - (c) use appropriate scientific instrumentation and equipment and mathematics as tools to improve scientific investigations and communications;
 - (d) compare the use of multiple types of inquiry for answering questions;
 - (e) evaluate alternative explanations and models based on evidence, current scientific understanding, and logic; and
 - (f) communicate and defend a scientific argument;
- (3) know how to make connections across the domains of science, between science and technology, and between science and other school subjects;
- (4) use scientific understandings and abilities when making decisions about personal and societal issues;
- (5) know and apply the fundamental concepts and principles of physical science concerning properties of and changes in matter; position, motion, and force; light, heat, electricity, and magnetism; and kinds of and ways to transfer energy;
- (6) know and apply the fundamental concepts and principles of life science concerning the characteristics of organisms, the life cycle of organisms, the interrelationships of organisms and environments, structure and function in living systems, reproduction and heredity, regulation and behavior, populations and ecosystems and their interrelationships, and diversity and adaptations of organisms;
- (7) know and apply the fundamental concepts and principles of earth and space science concerning properties of earth materials; objects in the sky; changes in earth and sky; structure of the earth system, including hydrosphere, biosphere, atmosphere, and lithosphere; history of the earth; and earth in the solar system; and

(8) know and apply pedagogy and classroom management in science and scientific inquiry including understanding:

(a) content standards under chapter 3501 for recommendations regarding curriculum, instruction, assessment, professional development, and program development;

(b) how to teach scientific inquiry in a developmentally appropriate manner;

(c) common student misconceptions in science and developmentally appropriate strategies to elicit students' misconceptions and help them move to accepted scientific understandings; and

(d) how to implement safe environments for learning science through knowing:

i. state and national legal responsibilities and safety guidelines for teaching science;

ii. how to establish and enforce recognized safety procedures during the science learning experience;

iii. how to use required safety equipment for classroom, field, and laboratory settings including goggles, fire extinguisher, fire blanket, eye wash, and chemical shower;

iv. how to manage, maintain, and utilize science supplies and equipment;

v. state and national guidelines and plan for the care, storage, use, and disposal of chemicals and equipment used to teach science;

vi. the ethics of and restrictions on making and maintaining collections of scientific specimens and data; and

vii. the ethics of and restrictions on the use of live organisms, and how to acquire, care, handle, and dispose of organisms.

F. A teacher of children in kindergarten through grade 6 must demonstrate knowledge of fundamental physical education and health concepts and the connections among them. The teacher must:

(1) understand the knowledge needed for providing learning experiences that encourage personal and community health promotion, disease prevention and safety, and proper nutritional choices;

(2) understand strategies for reducing and preventing accidents; drug, alcohol, and tobacco use; and high-risk situations and relationships;

(3) understand and apply movement concepts and principles to the learning and development of motor skills; and

(4) understand the knowledge needed for providing learning experiences that develop a health-enhancing level of physical fitness.

G. A teacher of children in kindergarten through grade 6 must demonstrate knowledge of fundamental visual and performing arts, including music, dance, and theater, concepts and the connections among them. The teacher must:

(1) understand the basic structural elements, principles, and vocabulary of the visual and performing arts;

(2) be able to perform and create using the basic elements and processes of visual and performing arts;

(3) know and apply within the elementary curriculum strategies for nurturing artistic modes of expression and thinking;

(4) understand the role of visual and performing arts in culture; and

(5) know the characteristics of children's developmental stages in the visual and performing arts.

Subp. 4. Subject matter standards for specialty in preprimary education or middle level academic field. A candidate must complete a preparation program under subpart 2, item C, for licensure in elementary education to teach students in kindergarten through grade

6 that must include the understandings and skills in subpart 3 and a specialty in at least one area in items A to F.

A. A teacher with a specialty for teaching communication arts and literature in grades 5 through 8 must demonstrate knowledge of fundamental concepts of the communication arts and literature and the connections among them. The teacher must:

(1) understand the literacy needs of young adolescents encompassing the need to comprehend narrative and technical writing, the need to successfully access available databases, the need to write at an interactive level including a variety of personal formats, and the ability to interact on all cognitive levels through writing;

(2) understand the importance of building student schema and metacognition in comprehending new information at higher levels of thinking;

(3) possess the strategies and skills necessary to teach young adolescents how to use content area text structure as an aid to their comprehension;

(4) possess the ability to use authentic assessment practices for the evaluation of young adolescents' development in literacy skills;

(5) possess the strategies and skills necessary to expand the vocabulary acquisition strategies of young adolescents as they grow in their literacy behaviors; and

(6) possess the strategies and skills necessary to develop the reading and writing behaviors of young adolescents across a breadth of content areas.

B. A teacher with a specialty for teaching mathematics in grades 5 through 8 must demonstrate knowledge of fundamental concepts of mathematics and the connections among them. The teacher must know and apply:

(1) concepts of patterns, relations, and functions:

(a) recognize, describe, and generalize patterns and build mathematical models to describe situations, solve problems, and make predictions;

(b) analyze the interaction within and among quantities and variables to model patterns of change and use appropriate representations including tables, graphs, matrices, words, algebraic expressions, and equations;

(c) represent and solve problem situations that involve variable quantities and be able to use appropriate technology;

(d) understand patterns present in number systems and apply these patterns to further investigations;

(e) apply properties of boundedness and limits to investigate problems involving sequences and series; and

(f) apply concepts of derivatives to investigate problems involving rates of change;

(2) concepts of discrete mathematics:

(a) application of discrete models to problem situations using appropriate representations including sequences, finite graphs and trees, matrices, and arrays;

(b) application of systematic counting techniques in problem situations to include determining the existence of a solution, the number of possible solutions, and the optimal solution;

(c) application of discrete mathematics strategies including pattern searching; organization of information; sorting; case-by-case analysis; iteration and recursion; and mathematical induction to investigate, solve, and extend problems; and

(d) exploration, development, analysis, and comparison of algorithms designed to accomplish a task or solve a problem;

(3) concepts of number sense:

(a) understand number systems; their properties; and relations including whole numbers, integers, rational numbers, real numbers, and complex numbers;

(b) possess an intuitive sense of numbers including a sense of magnitude, mental mathematics, estimation, place value, and a sense of reasonableness of results;

(c) possess a sense for operations, application of properties of operations, and the estimation of results;

(d) be able to translate among equivalent forms of numbers to facilitate problem solving; and

(e) be able to estimate quantities and evaluate the reasonableness of estimates;

(4) concepts of shape and space:

(a) shapes and the ways in which shape and space can be derived and described in terms of dimension, direction, orientation, perspective, and relationships among these properties;

(b) spatial sense and the ways in which shapes can be visualized, combined, subdivided, and changed to illustrate concepts, properties, and relationships;

(c) spatial reasoning and the use of geometric models to represent, visualize, and solve problems;

(d) motion and the ways in which rotation, reflection, and translation of shapes can illustrate concepts, properties, and relationships;

(e) formal and informal argument, including the processes of making assumptions; formulating, testing, and reformulating conjectures; justifying arguments based on geometric figures; and evaluating the arguments of others;

(f) plane, solid, and coordinate geometry systems including relations between coordinate and synthetic geometry, and generalizing geometric principles from a two-dimensional system to a three-dimensional system;

(g) attributes of shapes and objects that can be measured, including length, area, volume, capacity, size of angles, weight, and mass;

(h) the structure of systems of measurement, including the development and use of measurement systems and the relationships among different systems; and

(i) measuring, estimating, and using measurements to describe and compare geometric phenomena;

(5) concepts of data investigations:

(a) data and its power as a way to explore questions and issues;

(b) investigation through data, including formulating a problem; devising a plan to collect data; and systematically collecting, recording, and organizing data;

(c) data representation to describe data distributions, central tendency, and variance through appropriate use of graphs, tables, and summary statistics; and

(d) analysis and interpretation of data, including summarizing data; and making or evaluating arguments, predictions, recommendations, or decisions based on an analysis of the data; and

(6) concepts of randomness and uncertainty:

(a) inference and the role of randomness and sampling in statistical claims about populations;

(b) probability as a way to describe chance or risk in simple and compound events;

(c) predicting outcomes based on exploration of probability through data collection, experiments, and simulations; and

(d) predicting outcomes based on theoretical probabilities and comparing mathematical expectations with experimental results.

C. A teacher with a specialty for teaching social studies in grades 5 through 8 must demonstrate knowledge of fundamental concepts of the social studies disciplines and the connections among them. The teacher must know and apply:

(1) concepts of the ways human beings view themselves in and over time:

(a) that different historians may describe the same event or situation in different ways;

(b) key concepts including chronology, causality, change, conflict, and complexity to explain, analyze, and show connections among patterns of historical change and continuity;

(c) processes important to reconstructing and reinterpreting the past;

(d) that historical perspectives are influenced by individual experiences, societal values, and critical traditions; and

(e) how to use knowledge of facts and concepts drawn from history, along with methods of historical inquiry, to inform and evaluate actions concerning public policy issues;

(2) concepts of people, places, and environments:

(a) how to map information in a spatial context and interpret the maps;

(b) land forms and geographic features;

(c) physical system changes, including seasons, climate and weather, and the water cycle, and identify geographic patterns associated with them;

(d) physical and cultural patterns and their interactions, including land use, settlement patterns, cultural transmission of customs and ideas, and ecosystem changes; and

(e) how historical events have been influenced by, and have influenced, physical and human geographic factors in local, regional, national, and global settings;

(3) concepts of how people organize for the production, distribution, and consumption of goods and services:

(a) how economic systems structure the production and distribution of goods and services;

(b) the costs and benefits to society of allocating goods and services through private and public sectors;

(c) a range of various institutions that make up economic systems, for example households, business firms, banks, and corporations;

(d) how values and beliefs influence different economic decisions; and

(e) how to use economic reasoning to compare different proposals for dealing with contemporary social issues;

(4) concepts of ideals, principles, and practices of citizenship in a democratic republic:

(a) the purpose of government and how its powers are acquired, used, and justified;

(b) the basic features of the political system in the United States;

(c) the key ideals of the democratic republican form of government;

(d) the process for becoming a citizen and the rights and responsibilities of citizenship;

(e) how to locate, access, analyze, organize, and apply information about selected public issues;

(f) diverse forms of public opinion and the influence that various forms of citizen action have on public policy development and decision making; and

(g) how various forms of citizen action can strengthen the common good; and

(5) relationships among science, technology, and society:

(a) how science and technology have changed people's perceptions of the social and natural world;

(b) ways in which values, beliefs, and attitudes are influenced by new scientific and technological knowledge;

(c) the need for laws and policies to govern scientific and technological applications; and

(d) the need to seek reasonable and ethical solutions to problems that arise when scientific advancements and social norms or values come into conflict.

D. A teacher of elementary education with a specialty in science for grades 5 through 8 must meet the standards in part 8710.4750, subpart 3.

E. A teacher of elementary education with a specialty for teaching a world language and culture in kindergarten through grade 8 must meet the standards for licensure of Teachers of World Languages and Cultures in part 8710.4950, subpart 2, item A.

F. A teacher of elementary education selecting a specialty in preprimary education valid for teaching preprimary students age three and above must meet the standards in part 8710.3000, subpart 3, items A, C, E, F, and G.

Subp. 5. **Continuing licensure.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 6. **Effective date.** The requirements of this part for licensure as a teacher of elementary education with a specialty are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: 23 SR 1928

8710.3300 MIDDLE LEVEL LICENSURE IN ACADEMIC SPECIALTY.

Subpart 1. **Scope of practice.** A teacher with a middle level academic specialty is authorized to teach that academic specialty to students in grades 5 through 8 in any school organizational pattern.

Subp. 2. **Licensure requirements.** A candidate for licensure in a middle level academic specialty shall:

A. hold one or more of the following classroom teaching licenses granted by the Board of Teaching: a life license; a current nonvocational entrance, nonrenewable, or professional license; or a current entrance or continuing secondary vocational license based on a degree program in agriculture education, business education, consumer homemaking and family life education, industrial education, or marketing education; and

B. show verification of completing a preparation program approved under part 8700.7600 leading to licensure in a middle level academic specialty in subpart 3. To be licensed to teach a middle level academic specialty in grades 5 through 8, an applicant shall, in addition to meeting the requirements of this part, also meet the requirements for a licensure specialty in part 8710.3200, subpart 4, item A, B, or C; 8710.4750, subpart 3; or 8710.4950, subpart 2, item A, except that an applicant holding a license valid for teaching an academic specialty to students in grades 7 through 12 shall be licensed to teach that academic specialty in grades 5 and 6 upon meeting the requirements of this part.

Subp. 3. **Subject matter standard.** A candidate for licensure in a middle level academic specialty must complete a preparation program under subpart 2, item B, that includes the candidate's demonstration of the knowledge and skills in items A and B.

A. A teacher of an academic specialty to middle level students understands the nature of early adolescence and the needs of young adolescents. The teacher must understand:

- (1) the research base for and best practices of middle level education;
- (2) the educational principles relevant to the physical, social, emotional, moral, and cognitive development of young adolescents;
- (3) the concepts of "belonging" and "family connectedness" as crucial to the development of young adolescents; and
- (4) the process and necessity of collaboration with families and other adults in support of the learning of young adolescents.

B. A teacher of an academic specialty to middle level students understands the teaching of an academic specialty that integrates understanding of the academic specialty with the teacher's understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of an academic specialty to middle level students in grades 5 through 8 must:

- (1) develop curriculum goals and purposes based on the central concepts of the academic specialty and know how to apply instructional strategies and materials that are appropriate for middle level students and are specific to the academic specialty;
- (2) understand how to integrate curriculum across subject areas in developmentally appropriate ways;
- (3) understand the role and alignment of district, school, and department mission and goals in program planning;
- (4) understand the need for and how to connect student's schooling experiences with everyday life, the workplace, and further educational opportunities;

(5) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(6) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(7) understand the impact of reading ability on student achievement in the academic specialty, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read the academic specialty content more effectively; and

(8) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with middle level students within a range of educational programming models. Candidates for licensure who hold a license at the elementary level must complete these experiences with students in grades 7 and 8. Candidates for licensure who hold a license at the secondary level must complete these experiences with students in grades 5 and 6.

Subp. 4. **Professional license.** A professional license shall be issued and renewed according to this chapter.

Subp. 5. **Effective date.** The requirements of this part for licensure as a teacher of an academic specialty to middle level students in grades 5 through 8 are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *25 SR 805*

8710.4000 TEACHERS OF ADULT BASIC EDUCATION.

Subpart 1. **Scope of practice.** A teacher of adult basic education is authorized to provide to learners who are 16 years of age or over and are not enrolled in elementary or secondary schools instruction that is designed to develop mastery of basic education skills including English language skills. This part shall not prohibit a school board from employing a teacher who holds a valid Minnesota classroom teaching license but who is not licensed as a teacher of adult basic education to teach adult basic education. A license under this part does not qualify a teacher to provide instruction leading to a high school diploma.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach adult basic education shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of adult basic education in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of adult basic education must complete a preparation program under subpart 2, item C, that includes the candidate's demonstration of the knowledge and skills in items A to I.

A. A teacher of adult basic education must understand adult basic education organizational structure:

(1) the history and philosophy of adult basic education including its purposes, mission, and populations to be served;

(2) federal and state adult basic education legislation, policies, and regulatory agencies including sources of funding; and

(3) systems of delivering adult education programs and services.

B. A teacher of adult education must understand adult learning theories:

(1) characteristics common to all adult learners as well as those common to unique populations;

(2) contemporary strategies and models for teaching adults; and

(3) formal and informal diagnostic procedures, including self-assessment, for identifying the academic and personal needs of adult learners and how to use this information as the basis for customizing the curriculum so as to meet their needs.

C. A teacher of adult education must understand the content and methods for teaching reading:

- (1) multiple methods of teaching reading;
- (2) how to apply comprehension strategies for a variety of purposes to various types of materials, including those encountered in everyday life situations;
- (3) the stages of the reading process and the ability to model and teach strategies that occur before, during, and after reading; and
- (4) how to convey the importance of books and other printed sources to personal growth and lifelong learning.

D. A teacher of adult education must understand the content and methods for teaching mathematics:

(1) mathematical concepts and the procedures and connections between them including:

- (a) basic mathematics processes including addition, subtraction, multiplication, and division;
- (b) basic mathematics systems of whole numbers, fractions, decimals, and percentages;
- (c) estimation of quantities and the evaluation of the reasonableness of estimates;
- (d) systems of measurement and their use; and
- (e) constructing, reading, interpreting, and making inferences from tables, charts, and graphs;

(2) mathematical problem-solving techniques and strategies; and

(3) how to teach mathematics contextually to reflect actual uses using real world materials and situations that build on the adult learner's prior knowledge.

E. A teacher of adult education must understand the content and methods for teaching listening and speaking:

(1) the listening process and how to receive, attend to, interpret, and respond appropriately to verbal messages and other cues;

(2) ways of constructing meaning for participation in formal and informal speaking situations so students can organize ideas and use different verbal and nonverbal communication styles;

(3) how to teach listening and speaking contextually to reflect actual uses using real world materials and situations that build on the adult learner's prior knowledge; and

(4) how to adopt appropriate learning materials and adapt teaching strategies to meet the second language needs of adult learners whose first language is not English.

F. A teacher of adult education must understand the content and methods for teaching writing:

(1) the stages of the writing process;

(2) multiple strategies to assess and respond to student writing;

(3) the principles and formats of communicating thoughts, ideas, information, and messages appropriately and effectively in written English; and

(4) how to teach writing contextually so as to reflect actual uses using real world materials and situations that build on the adult learner's prior knowledge.

G. A teacher of adult education must understand the content and methods for teaching application skills:

(1) the higher order thinking skills of thinking critically, solving problems, and making decisions;

(2) effective interpersonal and group participation; and

(3) understanding how to learn.

H. A teacher of adult basic education must understand career development and transition skills:

- (1) the culture of the contemporary workplace and the changing nature of job skills;
- (2) the process of accessing information and resources of jobs and training;
- (3) the career decision-making process; and
- (4) the skills necessary to find and keep a job.

I. A teacher of adult basic education must understand adult teaching and learning:

- (1) factors for selecting and techniques for using materials and resources in adult education programming;
- (2) formal and informal diagnostic procedures for identifying the academic and personal needs of adult learners and how to use this information to develop competency-based instruction for individuals, small groups, and large groups;
- (3) strategies for learners to assess their own progress; and
- (4) factors to consider in developing unique curricula for specialized adult populations.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements in this part for licensure as a teacher of adult basic education are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4050 TEACHERS OF AGRICULTURAL EDUCATION.

Subpart 1. **Scope of practice.** A teacher of agricultural education is authorized to provide to students in grades 5 through 12 instruction that is designed to develop the student's literacy in the food, fiber, and natural resources systems, the agricultural applications of the concepts, and the interdisciplinary nature of science; and to assist students to develop agricultural and agriculture-related career perspectives and workplace skills.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach agricultural education to students in grades 5 through 12 shall:

- A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;
- B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and
- C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of agricultural education in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of agricultural education must complete a preparation program under subpart 2, item C, that includes the candidate's demonstration of the knowledge and skills in items A to L.

A. A teacher of agricultural education must understand the anatomy, taxonomy, physiology, and ecology of plants and the application of the principles of genetics, propagation, selection, culture, and use of plants in agronomy, horticulture, or forestry.

B. A teacher of agricultural education must understand the anatomy and physiology of animals; the application of principles of genetics, breeding, selection, nutrition, care and health of animals for use in production, companionship, and recreation; and other contemporary issues that include ethics and waste management.

C. A teacher of agricultural education must understand the principles and practices of ecology and conservation in the areas of air, water, land, and wildlife flora and fauna; the principles and practices of soils and soil management; and the interactions of humans in natural and managed environments.

D. A teacher of agricultural education must understand the principles of economics; business and resource management; sales and marketing of commodities and services; and managerial accounting and bookkeeping procedures.

E. A teacher of agricultural education must understand the principles and practices of mechanical systems that include fluid, electrical, and fuel-powered units; the design, fabrication, construction, and use of agricultural structures, equipment, and systems; alternative energy sources, including wind, solar, and geothermal energy; measuring tools and equipment; and product storage, water management, waste management, and materials handling.

F. A teacher of agricultural education must understand the selection and use of technology appropriate to the industry.

G. A teacher of agricultural education must understand the production, processing, preservation, packaging, storage, marketing, and distribution of dairy products, meats, fruits and vegetables, textiles, and wood products; and have knowledge of the laws, regulations, and issues affecting food and fiber quality and safety.

H. A teacher of agricultural education must understand the diversity of agriculture; population and cultural impact on world economics and trade; and productive capacity, productive potential, and comparative advantage.

I. A teacher of agricultural education must understand the principles and practices of leadership and communication that apply to organizations and community settings; role and structure of the student organization as an integral curricular component; and integration of the role and structure of the student organizations in developing the student through individual, cooperative, and collaborative activities that prepare the student for a role in the school, community, and workplace.

J. Through regular employment, internship, mentorship, job shadowing, or apprenticeship, a teacher of agricultural education must understand the function and operation of:

(1) businesses that supply goods and services to agriculture and agricultural-related enterprises; production units; and businesses that process, market, and distribute agricultural-related products; and

(2) diverse natural resources occupations, including recreational, conservation, and related occupations.

K. A teacher of agricultural education must understand the principles and practices of career planning and development that incorporates the role of career exploration in the process.

L. A teacher of agricultural education must demonstrate an understanding of the teaching of agriculture that integrates agriculture with pedagogy, students, learning, classroom management, and professional development to:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;

(2) understand and apply the research base and the best practices of middle level and high school education;

(3) develop curriculum goals and purposes based on the central concepts of agricultural education; and know how to apply instructional strategies and materials for achieving student understanding of agricultural education;

(4) understand the role and alignment of district, school, and department mission and goals in program planning;

(5) connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(6) involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(8) understand the impact of reading ability on student achievement, recognize the varying reading comprehension and fluency levels represented by the students, and possess strategies to assist students to enhance reading ability throughout the study of agricultural education; and

(9) apply the standards of effective practice in teaching students through a variety of early and ongoing experiences with middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements in this part for licensure as a teacher of agricultural education are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4100 TEACHERS OF AMERICAN INDIAN LANGUAGE, HISTORY, AND CULTURE.

Subpart 1. **Issuance of license authorized.** The Board of Teaching shall, under this part and Minnesota Statutes, section 126.49, authorize the issuance of a license to teach American Indian language, history, and culture to an applicant who has achieved and demonstrated competence in an American Indian language or knowledge and understanding of American Indian history and culture.

Subp. 2. **Scope of practice.** A teacher of American Indian language, history, and culture is authorized to teach an American Indian language or an American Indian history and culture to students in kindergarten through grade 12. This part shall not prohibit a school board from employing a person to teach an American Indian language or American Indian history and culture who does not hold a license under this part.

Subp. 3. **License requirements.** A candidate for licensure to teach American Indian language, history, and culture shall submit an application that:

- A. specifies the American Indian language or history and culture to be taught;
- B. includes certified copies of two resolutions attesting to the applicant's competence in an American Indian language or the knowledge and understanding of an American Indian history and culture. One of the resolutions must be from the tribal government governing the tribe or community speaking the language or representing the history and culture for which licensure is requested with the second resolution being from one of subitems (1) to (4):
 - (1) another reservation or business committee serving the tribe or community speaking the language or representing the history and culture for which licensure is requested;
 - (2) the local Indian education committee serving the tribe or community speaking the language or representing the history and culture for which licensure is requested;
 - (3) other bodies governing or serving the tribe or community speaking the language or representing the history and culture; or
 - (4) authorized officials of professional or learned societies, organizations, or institutions who are qualified to assess the applicant's competence in an American Indian language or the knowledge and understanding of the applicant of the American Indian history and culture.

The resolution shall confirm that the applicant has been assessed and is competent in the language to be taught or possesses knowledge and understanding of the American Indian history and culture to be taught.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements in this part for licensure as a teacher of American Indian language, history, and culture are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4150 TEACHERS OF BILINGUAL/BICULTURAL EDUCATION.

Subpart 1. **Scope of practice.** A teacher holding a bilingual/bicultural license is authorized to teach the academic content in the students' native or first language at the grade levels

defined by the prerequisite classroom teacher license in subpart 2, item B. Bilingual/bicultural education licensure is required when the teaching assignment focuses on providing academic content instruction to students of limited English speaking proficiency in their native or first language for the purposes of gaining access to the curriculum through instruction of academic content in the students' native or first language and developing both the students' native or first language and English language skills.

Subp. 2. **Licensure requirements.** A candidate recommended for licensure to teach bilingual/bicultural education shall:

A. hold a baccalaureate degree from a college or university that is accredited by the regional association for accreditation of colleges and secondary schools;

B. hold a valid Minnesota elementary education or a grade 5 through 12 or grade 7 through 12 license in mathematics, a science field, social studies, or health education;

C. demonstrate oral and written proficiency in the students' native or first language as described in subpart 3;

D. demonstrate the standards of effective practice for teaching in part 8710.2000; and

E. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to licensure of teachers of bilingual/bicultural education under subpart 4.

Subp. 3. **Demonstration of oral and written proficiency.** A candidate for licensure as a teacher of bilingual/bicultural education shall demonstrate oral and written proficiency in the students' native or first language under item A or B.

A. The candidate shall verify the completion of a high school or postsecondary education using the students' native or first language as the means of oral and written communication.

B. The candidate shall demonstrate an advanced level of oral proficiency as defined in the ACTFL Proficiency Guidelines established by the American Council on the Teaching of Foreign Languages and an advanced level writing proficiency as defined in this part. The written language proficiency does not apply to a candidate for licensure whose first or native language is a language that is not commonly communicated in written form by native speakers of that language.

A candidate who has an advanced level of written proficiency is able to write routine social correspondence and join sentences in simple discourse of at least several paragraphs in length on familiar topics; write simple social correspondence, take notes, write cohesive summaries and resumes, and narratives and descriptions of a factual nature; use sufficient writing vocabulary to express self simply with some circumlocution; make few errors in punctuation, spelling, or the formation of nonalphabetic symbols; and demonstrate good control of the morphology and the most frequently used syntactic structures; for example, common word order patterns, coordination, and subordination.

Subp. 4. **Subject matter standard.** A candidate for licensure as a teacher of bilingual/bicultural education must complete a preparation program under subpart 2, item E, that must include the candidate's demonstration of the knowledge and skills in items A to I.

A. A bilingual/bicultural education teacher demonstrates an understanding of the contributions of general and applied linguistics to second language education. The bilingual/bicultural education teacher must:

- (1) understand basic phonology of language;
- (2) understand grammatical concepts that are applicable to dual language instruction;
- (3) compare and contrast English with another language;
- (4) understand word forms and their contribution to the lexicon in English and other languages;
- (5) understand the multiple perspectives of language learners who share a common first language but come from a number of different cultural backgrounds; and
- (6) understand how to promote proficiency in two languages.

B. A bilingual/bicultural education teacher understands the fundamentals of the first and second language acquisition process. The bilingual/bicultural education teacher must:

- (1) understand the processes of and differences between first and second language acquisition;
- (2) understand the similarities and differences between child and adult language acquisition;
- (3) understand individual variation in language development of the first and second language;
- (4) understand that making errors is part of the natural language acquisition process; and
- (5) develop and use curricula that demonstrates an understanding of first and second language acquisition.

C. A bilingual/bicultural education teacher demonstrates an understanding of the history of bilingual education and the cultures represented in the United States and other countries. This includes a solid understanding of the foundations of bilingual education. The bilingual/bicultural education teacher must:

- (1) understand cultural pluralism in the United States and the relationships between the majority and minority groups;
- (2) be knowledgeable about the cultures of the United States and how these cultures interrelate in the global context;
- (3) know about the history and development of bilingual education in the United States;
- (4) understand the historical contributions of bilingual educators and advocates who have facilitated development of the field;
- (5) understand the contributions of the various communities and the importance of family and community participation in education; and
- (6) understand the various bilingual education program models and the implications for implementation.

D. A bilingual/bicultural education teacher understands and uses formal and informal assessment techniques to evaluate the progress of limited English proficient students. This understanding includes using two languages for assessment purposes. The bilingual/bicultural education teacher must understand:

- (1) entrance, exiting, and monitoring procedures for determining the readiness of limited English proficiency students for academic mainstreaming;
- (2) the characteristics, uses, advantages, and limitations of formal and informal second language assessment instruments and techniques in assessing limited English proficient students;
- (3) the characteristics, uses, advantages, and limitations of formal and informal academic assessment instruments and techniques in assessing limited English proficient students;
- (4) item and test construction methods appropriate to the learning needs of limited English proficient students including a thorough knowledge of dual language assessment;
- (5) how to administer, interpret, and explain the results of standardized and alternative methods of assessment to limited English proficient students, parents, and colleagues;
- (6) measurement theory and assessment-related issues including validity, reliability, linguistic, and cultural bias, and scoring concerns;
- (7) that ongoing assessment is essential to the instructional process and recognize that many different assessment strategies are necessary for monitoring and promoting limited English proficient student learning; and
- (8) the limitations of using traditional special education assessment procedures in the identification and placement of limited English proficient students in special education programs.

E. A bilingual/bicultural education teacher understands the importance of developing communication skills in listening, speaking, reading, and writing as being essential to student achievement in all academic areas. The bilingual/bicultural education teacher must:

- (1) understand the differences between literacy development in the first language and second language, and the implications for teaching second language learners;
- (2) recognize the critical role of language in fostering identity and self-esteem;
- (3) understand how cultural and linguistic differences influence communication; and
- (4) understand the variation in communication styles of limited English proficient students from diverse cultural backgrounds.

F. A bilingual/bicultural education teacher demonstrates the ability to communicate successfully with students, parents, and members of various cultural groups in the community. The bilingual/bicultural education teacher must understand:

- (1) the social structures of diverse cultural groups represented in the bilingual education classroom;
- (2) schools as organizations within the larger community and how to communicate successfully with limited English proficient students and their parents within the larger cultural framework;
- (3) how factors in the limited English proficient students' environment that include family circumstances, community status, health, and economic conditions may influence learning; and
- (4) the legal issues evolving the education of limited English proficient students.

G. A bilingual/bicultural education teacher understands and facilitates content-based language instruction as a means to provide integrated learning experiences for limited English proficient students. The bilingual/bicultural education teacher must:

- (1) understand the major concepts, assumptions, and processes of inquiry that are central to the academic content areas that are taught;
- (2) understand the connection between language proficiency and learning subject matter content;
- (3) understand the importance of building relationships with content area specialists in order to facilitate the acquisition of content knowledge by limited English proficient students; and
- (4) develop and use curricula and instructional approaches that enable limited English proficient students to acquire content understandings and skills.

H. The bilingual/bicultural education teacher models correct usage of the English language. The teacher must demonstrate an advanced level of speaking proficiency as defined in the ACTFL Proficiency Guidelines as established by the American Council on the Teaching of Foreign Languages.

I. A bilingual/bicultural education teacher understands and uses a variety of methods and materials suitable for teaching diverse bilingual education learners. The bilingual/bicultural education teacher must:

- (1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;
- (2) understand and apply the research base for and the best practices of middle level and high school education;
- (3) develop curriculum goals and purposes based on the central concepts of the bilingual/bicultural education and know how to apply instructional strategies and materials for achieving student understanding;
- (4) understand the role and alignment of district, school, and department mission and goals in program planning;
- (5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(8) understand how students with limited English proficiency construct knowledge, acquire skills, and develop proficiency in both social and academic setting;

(9) understand the importance of using multiple forms of instructional approaches to address the different learning styles, background experiences, and performance modes of students with limited English proficiency;

(10) know how to create, select, and adapt learning materials to meet the dual language needs of students with limited English proficiency in a school setting;

(11) understand the developmental progression and range of individual variation that can be expected of students with limited English proficiency in the context in which taught;

(12) know when and how to access appropriate services to meet exceptional learning needs beyond the scope of the bilingual education program; and

(13) apply the standards of effective practice in teaching students in kindergarten through grade 8 or in grades 5 through 12 through a variety of early and ongoing experiences within a range of educational programming models.

Subp. 5. Continuing license. A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 6. Incorporation by reference. For the purposes of this part, the ACTFL Proficiency Guidelines published in 1986 by the American Council on the Teaching of Foreign Languages, 6 Executive Plaza, Yonkers, NY 10701-6801, and subsequent editions are incorporated by reference. The guidelines are not subject to frequent change and are available from the State Law Library.

Subp. 7. Effective date. The requirements of this part for licensure as a teacher of bilingual/bicultural education are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4200 TEACHERS OF BUSINESS.

Subpart 1. Scope of practice. A teacher of business is authorized to provide to students in grades 5 through 12 instruction that is designed to develop understanding of the functional areas of business including management, sales and marketing, finance, accounting, human resources, and information systems; the factors that affect business including economics, international business, business law, and technology; and the personal and work skills of communications and interpersonal relations, data interpretation and management, computation, collaboration and group process, and career development and transitions.

Subp. 2. Licensure requirements. A candidate for licensure to teach business to students in grades 5 through 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8700.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of business in subpart 3.

Subp. 3. Subject matter standard. A candidate for licensure as a teacher of business must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of business has an integrated understanding of the functional areas of business from the perspective of the consumer, the employee, the business manager, and the entrepreneur. The teacher of business must understand:

(1) business organization and management, including the functions of management; historical and contemporary management theories; characteristics and the advantages and disadvantages of the major forms of business organizations; organizational structures and principles; the role of ethics in management; the impact and relationship of government regulations and community involvement to business management decisions; and the role of organized labor and its influence on government and business;

(2) sales and marketing, including role of marketing and the impact of marketing on the individual, business, and society; the role and application of ethics in marketing; external factors that influence or dictate marketing decisions; product development and forecasting principles and methods for determining sales potential; role of pricing in the marketing process and the use of various pricing strategies; distribution processes and methods in developing distribution plans; general forms of promotion and how each contributes to successful marketing; market research development, implementation, and evaluation; marketing variables and strategies in dealing with a diversified marketplace; the components of a comprehensive marketing plan; principles of selling and merchandising; and the function of retailing and wholesaling;

(3) financing, including the influence of internal and external factors, including stock market implications, on corporate financial data and how this data is used to make long-term and short-term management decisions; traditional sources for securing financing; the relationships among price, market share, and profitability; personal financial resource management and how more individual wants and needs can be satisfied by wise consumer decision making; the functions of commercial paper, insurance, secured transactions, and bankruptcy; the role of credit and the impact of long-term and short-term credit; and different types of budget processes;

(4) accounting, including the accounting cycle and the purposes of each component of the cycle, methods for determining the value of assets, liabilities, and owner's equity according to generally accepted accounting principles and when and why they are used; how to prepare, interpret, and analyze financial statements using manual and computerized systems for service, merchandising, and manufacturing businesses; and the use of planning and control principles to evaluate the performance of an organization and apply differential analysis and present value concepts to make decisions;

(5) business information systems, including entry-level career expertise in the use of office technology and can explain the purpose, functions, and common features of contemporary office technology including:

(a) computer technology including fundamentals of contemporary computer architecture and touch keyboarding skills to enter and manipulate text and data through word processing, database, spreadsheet, desktop publishing, and presentation graphics software;

(b) multimedia and imaging technology;

(c) telecommunications technology; and

(d) the impact of information systems on society; and

(6) human resources, including the activities of human resources management, its importance to the successful operation of an organization, and the role and importance of employment law as related to the conduct of business in the national and international marketplace.

B. A teacher of business has a fundamental and integrated understanding of the factors that affect business from the perspective of the consumer, the employee, the business manager, and the entrepreneur. The teacher of business must understand:

(1) economic fundamentals, including:

(a) the role of competitive markets and the price mechanism in the production, distribution, and allocation of scarce resources, including human, capital, technological, and natural within the United States economy;

(b) how the basic economic concepts of scarcity, opportunity cost, and trade-off influence the production, allocation, and consumption of goods and services in businesses and households, and the formulation of government domestic and international economic policy;

(c) the linkages between gross domestic production, consumption, investment and savings, employment levels, inflation, international trade, and government policy on taxation and spending;

(d) how the Federal Reserve System acts as our nation's central bank to promote a safe, sound money supply and how it initiates and effectuates the monetary system to allow for *noninflationary economic growth*;

(e) alternative economic systems, and the philosophical assumptions supporting these alternative systems; and

(f) the importance of, and economic interdependencies that exist in the global economy in relation to world trade, investment, and monetary flows;

(2) international business fundamentals, including:

(a) the role of international business and its impact on careers and doing business at the local, state, national, and international levels;

(b) communication strategies and ethics necessary and appropriate for effective and profitable international business relations;

(c) the role, importance, and basic concepts of international finance and risk management, international marketing, and balance of trade concepts; and

(d) the social, cultural, political, legal, and economic factors that shape and impact the international business environment;

(3) business law fundamentals, including:

(a) the relationship between ethics and the law;

(b) the sources of the law, structure of the court system, and different classifications of procedural and substantive law;

(c) the relationships among contract law, law of sales, and consumer law;

(d) the legal rules that apply to personal property and real property;

(e) how advances in computer technology impact property law, contract law, criminal law, and international law; and

(f) the role and importance of agency law and employment law as they relate to the conduct of business in the national and international marketplaces;

(4) technology concepts that are of lasting value rather than mastery of specific hardware or software skills and knowledge, including:

(a) understanding the fundamentals of current and emerging technological concepts including types, transmissions, storage, and display systems; and

(b) the ability to examine the technological issues from a variety of perspectives including appropriate use, privacy, ethics, remaining current, access, and economic advantages and disadvantages.

C. A teacher of business demonstrates the following essential workplace skills and understands how to create learning experiences that make this content meaningful to students. The teacher of business must demonstrate:

(1) communication and interpersonal skills including the ability to:

(a) understand how to approach communication from a systems perspective including cultural, organizational, technological, and interpersonal perspectives and how to use the system perspective to analyze and direct the choice of communication strategies and forms;

(b) communicate in a clear, courteous, concise, and correct manner using oral communication skills, informational reading skills, written communication skills, and effective listening skills; and

(c) apply effective human relations and interpersonal skills;

(2) data interpretation and management skills, including the ability to acquire, evaluate, organize, maintain, and interpret and communicate information using both manual and computer technology;

(3) computational skills, including the ability to:

(a) use mathematical procedures to analyze and solve business problems for areas, including taxation; savings and investments; payroll records; cash manage-

ment; financial statements; credit management; purchases; inventory records; depreciation, cost-recovery, and depletion; and

(b) construct, read, and interpret and make inferences from tables, charts, and graphs;

(4) collaboration and group process skills, including the ability to understand a holistic perspective, develop and communicate group goals, understand the role of the individual in groups, and interpret and process feedback within groups; and

(5) career development and transition skills, including the ability to understand and apply career development theory, the job procurement process, and all forms of communication used in the successful pursuit of a career.

D. A teacher of business understands occupational clusters within business, marketing, and information management sufficient to:

(1) enable students to develop a perspective of career options in the business fields of management, sales and marketing, accounting and finance, information systems, or office management and administrative support;

(2) gain understanding of the basic purposes, issues, skills, nature of work, and major concepts that undergird employment in one or more occupations centrally associated with applying academic business content;

(3) establish activities that allow students to understand individual work in the context of broader business goals;

(4) organize instruction that enables students to more effectively learn how to acquire skills, gain a perspective on a career, and embark on the first job; and

(5) understand the unique characteristics of an entrepreneur and the special skills of entrepreneurship associated with starting, owning, and managing a business.

E. A teacher of business must be able to integrate understanding business with the understanding of pedagogy, students, learning environments, and professional development. The teacher of business to preadolescent and adolescent students must:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;

(2) understand and apply the research base for and the best practices of middle level and high school education;

(3) know how to develop curriculum goals based on the central concepts of the business and how to apply instructional strategies and materials for achieving student understanding of this discipline;

(4) understand the role and alignment of district, school, and department mission and goals in program planning;

(5) understand key legislation germane to business education and school-to-work transition programming;

(6) understand fiscal, budgetary, and purchasing practices that focus on how to organize and equip an effective and efficient classroom including selecting and maintaining instructional materials, supplies, furniture, and technology that are consistent with the current program standards;

(7) understand the need for and how to connect student secondary schooling experiences with the workplace or further educational opportunities;

(8) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(9) understand the role and purpose of cocurricular and extracurricular business activities in the teaching and learning process;

(10) know how to access information relevant to the field of business through consumer, business, and professional organizations, publications, and journals;

(11) know strategies for marketing the business education program, including student recruitment and retention techniques and practices;

(12) know how to develop and apply evaluative criteria for a business curriculum and a plan for continuous improvement;

(13) understand the impact of reading ability on student achievement in business studies, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read business content materials more effectively; and

(14) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of business are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4250 TEACHERS OF COMMUNICATION ARTS AND LITERATURE.

Subpart 1. **Scope of practice.** A teacher of communication arts and literature is authorized to provide to students in grades 5 through 12 instruction that is designed to develop skills and understanding in reading, writing, speaking, listening, media literacy, and literature.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach communication arts and literature to students in grades 5 through 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of communication arts and literature in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of communication arts and literature must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. A teacher of communication arts and literature understands central concepts common to the teaching and learning of communication arts and literature content. The teacher must understand and apply:

- (1) language development, cognition, and learning;
- (2) the phonological, grammatical, and semantic functions of language;
- (3) philosophy and theories of communication arts and literature instruction;
- (4) technological resources including software, databases, and networks that can be used to gather, synthesize, create, and communicate knowledge;
- (5) language for independent learning and enjoyment;
- (6) communication which is clear, fluent, strategic, critical, and creative;
- (7) the aesthetic dimensions of communication arts and literature;
- (8) strategies that allow appropriate engagement in communication tasks for a variety of purposes and audiences;
- (9) the integration of reading, writing, speaking, listening, and viewing;
- (10) strategies for selecting and using texts and materials that correlate individual student abilities with developmentally appropriate learning experiences;
- (11) strategies for selecting and using texts and materials which recognize and accept a broad range of common and diverse perspectives;
- (12) research methods encompassing content;
- (13) the social, intellectual, and political importance and impact of communication;

- (14) the meanings of messages, content and relational;
- (15) communication and its value in exploring and expressing ideas; and
- (16) communication arts and literature activities such as forensics, debate, journalism, literary journals, and related activities.

B. A teacher of communication arts and literature demonstrates understanding and skills essential to the teaching and learning of reading, writing, speaking, listening, media literacy, and literature. The teacher must demonstrate the:

- (1) knowledge, skills, and ability to teach reading including:
 - (a) the interactive and constructive nature of reading comprehension and how it functions in the literal, inferential, and schema-based levels of understanding;
 - (b) the stages of the reading process so as to model and teach strategies that occur before, during, and after reading;
 - (c) content area reading strategies to encourage competence and independence for lifelong learning;
 - (d) comprehension strategies for a variety of purposes to various materials and tasks, including everyday life situations;
 - (e) the ability to find and synthesize information from a variety of textual and nontextual sources;
 - (f) the selection and teaching of vocabulary in all settings; and
 - (g) the use of books and other printed sources for personal growth and lifelong learning;
- (2) knowledge, skills, and ability to teach writing including:
 - (a) various stages of the writing process, including prewriting, writing, conferencing, revising, and publishing used in teaching writing;
 - (b) diverse strategies for assessing and responding to student writing;
 - (c) the functions of language and how they influence effective written communication; and
 - (d) conventions for presenting, arranging, and organizing information in particular genres or media;
- (3) knowledge, skills, and ability to teach speaking including:
 - (a) relationships among the verbal and nonverbal components of the speaking process across a variety of contexts including small group, interpersonal, and public;
 - (b) methods and steps necessary to construct meaning for participants in both formal and informal speaking situations;
 - (c) methods of managing and overcoming communication anxiety and apprehension; and
 - (d) ethical responsibilities of a speaker associated with competent and effective communication in society;
- (4) knowledge, skills, and ability to teach listening including:
 - (a) relationships between and among the components of the listening process;
 - (b) the different listening skills appropriate for diverse types and levels of listening;
 - (c) how to identify and manage barriers to listening; and
 - (d) ethical responsibilities of a listener;
- (5) knowledge, skills, and ability to teach media literacy including:
 - (a) relationships among the elements of the communication process across various types of print and nonprint media;
 - (b) effects of the various types of electronic audiovisual media on the communication process;
 - (c) competent participation as a consumer and producer of media communication; and

(d) functional, aesthetic, and ethical values of media communication;

(6) knowledge, skills, and ability to teach literature including:

(a) a repertoire of literary texts, including fiction and nonfiction, classic and contemporary works, and works written for preadolescents and adolescents by a diversity of authors;

(b) characteristics of various literary genres, including poetry, drama, novel, short story, and essays;

(c) tools of interpretation including literary devices, critical theories, and various methods of analysis, interpretation, presentation, and evaluation of literature;

(d) how to help students respond to, interpret, and evaluate texts in a variety of ways, including text centered and reader centered approaches;

(e) how to encourage students to respond to texts through written and oral communication, both privately and publicly;

(f) how to help students construct meaning out of texts through various processes applied before, during, and after reading;

(g) how context shapes meaning; and

(h) how to encourage students to become lifelong readers and writers.

C. A teacher of communication arts and literature demonstrates an understanding of the teaching of communication arts and literature that integrates understanding of communication arts and literature with their understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of communication arts and literature to preadolescent and adolescent students in grades 5 through 12 shall:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;

(2) understand and apply the research base for and the best practices of middle level and high school education;

(3) develop curriculum goals and purposes based on the central concepts of communication arts and literature and know how to apply instructional strategies and materials for achieving student understanding of this discipline;

(4) understand the role and alignment of district, school, and department mission and goals in program planning;

(5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(8) understand the impact of reading ability on student achievement, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read more effectively; and

(9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements of this part for licensure as a teacher of communication arts and literature are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4300 TEACHERS OF DANCE AND THEATRE ARTS.

Subpart 1. **Scope of practice.** A teacher of dance and theatre arts education is authorized to provide to students in kindergarten through grade 12 instruction that is designed to

develop an understanding of the creative works and the process of producing dance and theatre art forms.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach dance and theatre arts to students in kindergarten through grade 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of dance and theatre arts in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of dance and theatre arts must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A, B, and D or A, C, and D.

A. All teachers of dance and theatre arts education must demonstrate competency in:

(1) choreography, improvisation, and in one dance movement genre in the context of performance opportunities;

(2) the theory and practice of acting and directing in the context of performance opportunities;

(3) the theory and practice in technical production and creative technology of dance and theater in the context of performance opportunities;

(4) teaching methods and instructional content of creative dance and creative dramatics;

(5) comparing and contrasting and using materials, elements, and modes of expression, production, and communication that support the processes of creation, analysis and interpretation, performance or exhibition, inquiry, and creative technology in all the arts;

(6) comparing and contrasting ways of knowing in the arts with ways of knowing in the humanities, the sciences, and other subject areas; and

(7) analyzing the economics and career opportunities of arts creation, performance, analysis, and creative technology.

B. A teacher of dance and theatre arts with a dance specialization must demonstrate competency in:

(1) a selected core dance movement genre through performance or concert opportunities;

(2) a second dance movement genre in the context of reflective performance opportunities;

(3) choreography and improvisation through performance or concert opportunities;

(4) critical analysis and interpretation of the technical and choreographic aspects of performance;

(5) the historical and aesthetic development of dance in diverse cultures;

(6) contemporary technological principles, concepts, and tools and communicating the environmental and ethical issues concerning creative technology in dance; and

(7) analyzing the functional, expressive, and health aspects of the human body.

C. A teacher of dance and theatre arts with a theatre specialization must demonstrate competency in:

(1) the theories and practices of acting through performance opportunities;

(2) the theories and practices of stage direction through performance opportunities;

(3) the process and techniques of creating a dramatic text;

- (4) the critical analysis and interpretation of theater performance;
- (5) contemporary technological principles, concepts, and tools and communicating the environmental and ethical issues concerning creative technology in theatre;
- (6) the historical and aesthetic development of theater in diverse cultures; and
- (7) communicating and understanding the dramatic literature of diverse cultures.

D. A teacher of dance and theatre arts must demonstrate an understanding of the teaching of dance and theatre arts that integrates understanding of dance and theatre arts with the teacher's understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of dance and theatre arts shall:

- (1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;
- (2) understand and apply the research base for and the best practices of kindergarten and primary, intermediate, and middle and high school education;
- (3) develop curriculum goals and purposes based on the central concepts of theatre and dance and know how to apply instructional strategies and materials for achieving student understanding of these disciplines;
- (4) understand the role and alignment of district, school, and department mission and goals in program planning;
- (5) understand the need for and how to connect students' academic experiences with everyday life, the workplace, and further educational opportunities;
- (6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;
- (7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;
- (8) understand the impact of reading ability on student achievement in dance and theatre studies, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read dance and theatre arts content more effectively; and
- (9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with kindergarten and primary, intermediate, and middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements of this part for licensure as a teacher of dance and theatre arts are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4310 TEACHERS OF DANCE.

Subpart 1. **Scope of practice.** A teacher of dance is authorized to provide to students in kindergarten through grade 12 instruction that is designed to develop an understanding of the creative works and processes of producing dance.

Subp. 2. **Licensure.** A candidate for licensure to teach dance to students in kindergarten through grade 12 shall:

- A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;
- B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and
- C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of dance in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of dance must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A and B.

A. All teachers of dance must demonstrate competency in:

- (1) theories and practices of at least two dance forms in the context of performance;
- (2) theories and practices of choreography in the context of performance;
- (3) theories and practices of improvisation as applied to choreography and performance;
- (4) analysis, interpretation, and evaluation of technique, performance, and choreographic aspects of dance;
- (5) understanding theories and practices of dance in diverse cultures and historical periods;
- (6) theories and practices of design and technical production in dance in the context of performance;
- (7) understanding human anatomy and physiology, and health and safety practices related to dance;
- (8) theories and practices of creative dance;
- (9) understanding ethical issues in dance;
- (10) comparing and contrasting the processes of creating, performing, and responding in dance with the processes and content in other arts areas;
- (11) comparing and contrasting the processes of creating, performing, and responding in dance with the processes and content in the humanities, the sciences, and other subject areas; and
- (12) analyzing the economics and career opportunities of dance creation, performance, analysis, and technology.

B. A teacher of dance must demonstrate integration of content with an understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of dance shall:

- (1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;
- (2) understand and apply the research base for and the best practices of kindergarten and primary, intermediate, and middle and high school education;
- (3) develop curriculum goals and purposes based on the central concepts of dance and know how to apply instructional strategies and materials for achieving student standards in dance;
- (4) understand the role and alignment of district, school, and department mission and goals in program planning;
- (5) understand the need for and how to connect students' academic experiences with everyday life, the workplace, and further educational opportunities;
- (6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;
- (7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;
- (8) understand the impact of reading ability on student achievement in dance studies, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read dance content more effectively; and
- (9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with kindergarten and primary, intermediate, and middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements of this part for licensure as a teacher of dance are effective September 1, 2005, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *30 SR 1054*

8710.4320 TEACHERS OF THEATRE ARTS.

Subpart 1. **Scope of practice.** A teacher of theatre arts is authorized to provide to students in kindergarten through grade 12 instruction that is designed to develop an understanding of the creative works and processes of producing theatre.

Subp. 2. **Licensure.** A candidate for licensure to teach theatre arts to students in kindergarten through grade 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of theatre in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of theatre arts must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A and B.

A. All teachers of theatre arts must demonstrate competency in:

(1) theories and practices of acting in the context of performance, including movement and voice;

(2) theories and practices of directing in the context of performance;

(3) theories and practices of design and technical production in theatre in the context of performance;

(4) theories and practices of creative dramatics and improvisation;

(5) processes and techniques of creating dramatic texts;

(6) analysis, interpretation, and evaluation of theatre texts and performances;

(7) understanding ethical issues in theatre;

(8) understanding theories, practices, and literature of theatre in diverse cultures and historical periods;

(9) comparing and contrasting the processes of creating, performing, and responding in theatre with the processes and content in other arts areas;

(10) comparing and contrasting the processes of creating, performing, and responding in theatre with the processes and content in the humanities, the sciences, and other subject areas; and

(11) analyzing the economics and career opportunities of theatre creation, performance, analysis, and technology.

B. A teacher of theatre arts must demonstrate integration of content with an understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of theatre shall:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;

(2) understand and apply the research base for and the best practices of kindergarten and primary, intermediate, and middle and high school education;

(3) develop curriculum goals and purposes based on the central concepts of theatre and know how to apply instructional strategies and materials for achieving student standards in theatre;

(4) understand the role and alignment of district, school, and department mission and goals in program planning;

(5) understand the need for and how to connect students' academic experiences with everyday life, the workplace, and further educational opportunities;

(6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(8) understand the impact of reading ability on student achievement in theatre studies, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read theatre content more effectively; and

(9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with kindergarten and primary, intermediate, and middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements of this part for licensure as a teacher of theatre arts are effective September 1, 2005, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *30 SR 1054*

8710.4350 TEACHERS OF DRIVER AND TRAFFIC SAFETY.

Subpart 1. **Scope of practice.** A teacher of driver and traffic safety is authorized to provide to students 15 years of age or older instruction that is designed to develop the skills and understanding essential for acquiring a Minnesota driver's license.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach driver and traffic safety shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of driver and traffic safety in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of driver and traffic safety must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to L. The teacher must understand:

A. traffic safety problems;

B. the complexities of the driving task;

C. the research base for and the best practices of teaching driver and traffic safety including strategies for teaching in a laboratory environment;

D. the needs of the new driver as they relate to the organization of classroom and laboratory phases of driver and traffic safety programs in light of contemporary knowledge of adolescent development, psychology, and culture;

E. the components that contribute to the effective design and delivery of the behind-the-wheel phase of driver and traffic safety, including a properly equipped vehicle, an established route, route selection, and entry and exit level assessments of student understandings and skills;

F. the strengths and limitations of various forms of laboratory instruction specific to driver and traffic safety, including behind-the-wheel, multiple vehicle driving range, and simulation, and their application in designing and delivering this instruction;

G. the origins of driver and traffic safety programs and major milestones in the history of driver and traffic safety;

H. the impact of recent trends and issues affecting driver and traffic safety programs;

I. the role of federal, state, and local government agencies and the private sector in providing driver and traffic safety services;

J. how to design driver and traffic safety programs that are in compliance with professional standards and applicable state rules and laws in a manner responsive to the emerging trends impacting driver and traffic safety;

K. the major tasks required of the driver and traffic safety coordinator needed for successful program management; and

L. how to apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements in this part for licensure as a teacher of driver and traffic safety are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4400 TEACHERS OF ENGLISH AS A SECOND LANGUAGE.

Subpart 1. **Scope of practice.** A teacher of English as a second language is authorized to provide to students in kindergarten through grade 12 instruction that is designed to provide English language instruction to students whose English proficiency is not sufficient to benefit from the curriculum through mainstream instruction in English or to collaborate and consult with other classroom teachers for the purpose of integrating language and content teaching for students with limited English proficiency.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach English as a second language to students in kindergarten through grade 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of English as a second language in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of English as a second language must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to J.

A. An English as a second language teacher demonstrates a high level of proficiency in English commensurate with the role of an instructional model and develops an awareness of the process of formal language learning by learning a second language through two years of second language instruction in a high school setting or one year of second language instruction in a postsecondary setting, or the equivalent.

B. An English as a second language teacher understands a variety of methods, techniques, and program models suitable for second language instruction with diverse learners including adapting existing materials to meet the needs of the students with limited English proficiency. The teacher must:

(1) demonstrate an understanding of the importance of using multiple forms of instructional approaches to address different learning styles, background experiences, and performance modes of limited English proficiency students;

(2) be able to adopt appropriate learning materials and adapt teaching strategies to meet the second language needs of students with limited English proficiency in a school setting; and

(3) understand the developmental progression and range of individual variation of students with limited English proficiency in the context in which taught.

C. An English as a second language teacher uses various content-based methodologies and integrates language acquisition and use of language functions across learning experiences to facilitate full inclusion of students with limited English proficiency in the school setting. The teacher must:

- (1) understand how limited English proficiency affects learning; and
- (2) understand that both language learning and subject matter content are essential to student success in an academic setting.

D. An English as a second language teacher demonstrates the ability to communicate successfully with students, parents, colleagues, and community members. The teacher must:

- (1) understand that cultural practices may differ and that these differences may affect the way students learn;
- (2) understand schools as organizations within the larger community context and that successful communication with parents must be undertaken within that larger socio-cultural framework;
- (3) understand how the student's environment, including family circumstances, community systems, and health and economic conditions, may influence learning; and
- (4) work with other professionals to improve the quality of educational services provided to students with limited English proficiency.

E. An English as a second language teacher demonstrates an understanding of communication instruction in the second language context and the importance of developing communication skills in listening, speaking, reading, and writing across the curriculum. The teacher must:

- (1) understand the differences between literacy development in the first language and the second language, and the implications for teaching second language learners;
- (2) understand how to develop communication skills in listening, speaking, reading, and writing as an important contributor to academic success across the curriculum; and
- (3) understand and use a variety of communication techniques and be able to use verbal, nonverbal, and multimedia and other technology based resources that enhance student learning.

F. An English as a second language teacher understands and uses formal and informal second language assessment techniques to determine appropriate placement and to evaluate the progress of students with limited English proficiency. The teacher knows and uses criteria for determining the readiness of students to enter and exit limited English proficiency programs. The teacher must:

- (1) understand the characteristics, uses, advantages, and limitations of formal and informal second language assessment techniques;
- (2) understand the limitations of using traditional assessment procedures in the identification and placement of students with limited English proficiency in academic programs, including gifted and special education programs;
- (3) understand second language assessment including item and test construction methods appropriate for students with limited English proficiency; and
- (4) know how to administer, interpret, and explain the results of standardized tests and alternative methods of assessment to students with limited English proficiency, the students' parents, and to colleagues.

G. An English as a second language teacher understands the contributions of general and applied linguistics to second language education. The teacher must:

- (1) understand basic linguistic concepts;
- (2) understand features of English including phonology, morphology, syntax, and semantics;
- (3) relate knowledge of English to other languages; and
- (4) understand the history and development of the English language.

H. An English as a second language teacher understands the fundamentals of the first and second language acquisition processes and their similarities and differences. The teacher must:

- (1) understand the processes of first and second language acquisition; and
- (2) understand that there are similarities and differences between child, adolescent, and adult language acquisition.

I. An English as a second language teacher is aware of how the historical, social, and political aspects of language and cultural patterns in the United States influence second language instruction. The teacher must:

- (1) understand cultural pluralism in the United States, how cultural and social differences are reflected;
- (2) be knowledgeable about the sociolinguistic dynamics of the cultures of the United States; and
- (3) understand how cultural, linguistic, ethnic, regional, and gender differences affect communication in the classroom.

J. An English as a second language teacher must demonstrate an understanding of the teaching of English as a second language that integrates understanding of English as a second language with the teacher's understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of English as a second language in kindergarten through grade 12 must:

- (1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;
- (2) understand and apply the research base for and the best practices of kindergarten and primary, intermediate, and middle level and high school education;
- (3) develop curriculum goals and purposes based on the central concepts of *English as a second language* and know how to apply instructional strategies and materials for achieving student understanding;
- (4) understand the role and alignment of district, school, and department mission and goals in program planning;
- (5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;
- (6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;
- (7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process; and
- (8) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with kindergarten and primary, intermediate, and middle level and high school students within a range of educational programming models.

Subp. 4. Continuing license. A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. Effective date. The requirements of this part for licensure as a teacher of English as a second language are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4450 TEACHERS OF FAMILY AND CONSUMER SCIENCES.

Subpart 1. Scope of practice. A teacher of family and consumer sciences is authorized to provide to students in grades 5 through 12 instruction that is designed to prepare students for family life and the interrelationships between family, community, and work.

Subp. 2. Licensure requirements. A candidate for licensure to teach family and consumer sciences to students in grades 5 through 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of family and consumer sciences in subpart 3.

Subp. 3. Subject matter standard. A candidate for licensure as a teacher of family and consumer sciences must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to D.

A. A teacher of family and consumer sciences understands how the family functions and develops within the home environment. The teacher must understand:

(1) reciprocal influences between the family and family members to the workplace;

(2) family structures, functions, relationships, and dynamics;

(3) parenting as a process through the life cycle;

(4) physiological, psychological, and social aspects of sexual development throughout the life span;

(5) management of household and natural resources to achieve personal and family goals including food, clothing, shelter, recreation, transportation, education, and investments;

(6) the influence of ethics on personal, family, and consumer decisions;

(7) decision-making models within the context of problem solving in the home environment and the extension to the community;

(8) the developmental changes of individuals across the life span and ways to meet their corresponding physical, emotional, cognitive, social, and moral development needs;

(9) how to identify and meet personal and family needs and wants for shelter and clothing to include finding, selecting, and maintaining suitable housing and the role of aesthetics and design in textiles, apparel, and interiors;

(10) nutrition planning and food preparation, handling, and storage for personal and family safety and well-being; and

(11) stress factors that affect the family including multigenerational households, family members with special needs, dual careers, economic uncertainty, violence, substance abuse, resolving conflict, and death.

B. A teacher of family and consumer sciences understands the interrelatedness of family and community. The teacher must understand:

(1) the effects of social and technological changes on families;

(2) value systems within the family and their relationship to social consequences and public policy;

(3) cultural and ethnic variations in families;

(4) rights and responsibilities of children, parents or guardians, grandparents, and others;

(5) variations in parenting practices;

(6) how to access community resources to solve family problems;

(7) reciprocal influences of the major social institutions, including governmental and educational, on the family;

(8) the impact of historical, environmental, and cultural influences on living environments, textiles, and interior design;

(9) global food sources and their impact on the community; and

(10) cultural and political aspects of food distribution and consumption.

C. A teacher of family and consumer sciences understands career development in related services occupations. As a result of both school-based and work-based learning experiences, the teacher must understand:

(1) career decision-making process including self-awareness, career research, workplace expectations, career strategies, goal setting, school-to-work transition, and lifelong learning;

(2) the basic purposes, issues, skills, nature of work, and competencies in one or more of the following related service occupations: Family and Community Support Services; Consumer Resources Management; Early Childhood and Educational Services; Apparel and Textile Design, Manufacturing, and Merchandising; Interior Design and Furnishings; Management and Maintenance of Facilities; Hospitality, Tourism, and Recreation; Food Science, Dietetics, and Nutrition; and Food Production Services;

(3) the impact of consumer practices, laws, global economics, and conservation or recycling on the service occupations;

(4) uses and influences of technology in related service occupations;

(5) the impact of interpersonal skills on the work environment; and

(6) how families contribute to the preparation of family members for the work environment.

D. A teacher of family and consumer sciences understands the teaching of family and consumer sciences that integrates understanding of family and consumer sciences with the teacher's understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of family and consumer sciences to preadolescent and adolescent students must:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;

(2) understand and apply the research base for and the best practices of middle level and high school education;

(3) develop curriculum goals and purposes based on the central concepts of family and consumer sciences and know how to apply instructional strategies and materials;

(4) understand the role and alignment of district, school, and department mission and goals in program planning;

(5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(8) understand the impact of reading ability on student achievement in family and consumer sciences, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read family and consumer sciences content more effectively;

(9) understand laboratory management practices and procedures;

(10) understand the impact of public policy on curriculum;

(11) know fiscal, budgetary, and purchasing practices for operating a comprehensive family and consumer sciences educational program;

(12) know marketing techniques for student recruitment and retention in family and consumer sciences programs; and

(13) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements of this part for licensure as a teacher of family and consumer sciences are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4500 TEACHERS OF HEALTH.

Subpart 1. **Scope of practice.** A teacher of health is authorized to provide to students in grades 5 through 12 instruction that is designed to develop the knowledge and skills necessary to practice healthy behaviors.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach health to students in grades 5 through 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of health in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of health must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to H.

A. A teacher of health understands behaviors and factors that:

(1) prevent or reduce the risk of accidents, sudden illness, and violent injuries;

(2) prevent or reduce the risk of tobacco use or alcohol and other drug abuse;

(3) prevent or reduce the risk of HIV infection and AIDS, sexually transmitted diseases, and unintentional pregnancy; and

(4) contribute to sufficient physical activity and promote health-enhancing dietary practices.

B. A teacher of health understands concepts related to health promotion and disease prevention including:

(1) the need for and role of a philosophy of health, health education, and health promotion;

(2) primary, secondary, and tertiary prevention;

(3) components of comprehensive school health programs and interrelationships among components;

(4) behaviors that foster and those that hinder well-being; and

(5) physical, social, emotional, and intellectual factors that influence health.

C. A teacher of health understands how to access valid health information and health-promoting products and services including:

(1) selecting and evaluating the validity of sources of health education information;

(2) identifying and accessing appropriate and cost-effective school and community health services;

(3) identifying and evaluating appropriate lifestyle assessments and health-risk appraisals;

(4) using or developing appropriate data gathering instruments to include national, state, or district level morbidity, mortality, behavioral risk, and needs assessment data; and

(5) articulating research and public policy regarding health issues.

D. A teacher of health understands health-enhancing behaviors that reduce health risks including:

(1) the short-term and long-term consequences of positive and negative health choices;

(2) the relationship between and among the major health determinants of genetics, environments, health care, and personal behavior;

(3) the importance of individual responsibility for health; and

(4) strategies to reduce and prevent stress-related health problems.

E. A teacher of health understands the effects of advertising, media, technology, and social norms on health behaviors.

F. A teacher of health understands how to use interpersonal communication skills to enhance health including:

(1) models and strategies for teaching communication skills for expressing needs, wants, and feelings; communicating, care, consideration, and respect of self and others; conflict resolution; and refusal skills; and

(2) strategies for facilitating dialogue related to controversial health issues.

G. A teacher of health understands how to use goal-setting and decision-making skills to enhance health including:

(1) age appropriate decision-making and goal-setting models;

(2) applying decision-making and goal-setting processes to personal health choices;

(3) the components of and processes for the development and implementation of personal health plans; and

(4) predicting the immediate and long-range impact of health decisions on the individual, family, and the community.

H. A teacher of health demonstrates an understanding of the teaching of health that integrates understanding of health with the understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of health to preadolescent and adolescent students must:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;

(2) understand and apply the research base for and the best practices of middle and high school education;

(3) develop curriculum goals and purposes based on the central concepts of health and know how to apply instructional strategies and materials for achieving student understanding of this discipline;

(4) understand the role and alignment of district, school, and department mission and goals in program planning;

(5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(8) understand the impact of reading ability on student achievement in health studies, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read health materials effectively; and

(9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements in this part for licensure as a teacher of health are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4525 TEACHERS OF KEYBOARDING FOR COMPUTER APPLICATIONS.

Subpart 1. **Scope of practice.** A teacher of keyboarding for computer applications is authorized to provide to students in grades kindergarten through 8 age-appropriate instruction that is designed to teach keyboarding knowledge, application, and skills, including key-

boarding terminology, techniques, ergonomics, and appropriate fingering on computer keys, and basic computer applications, including word processing, graphics, multimedia presentations, and gathering information from electronic sources. Nothing in this part prevents a teacher of elementary education from teaching keyboarding or computer applications to the teacher's own classroom or prevents a teacher of business education from teaching keyboarding and computer applications to students at the grade levels for which the teacher is licensed as a teacher of business education. Nothing in this part prevents any teacher from teaching students to use technology applications appropriate to their curriculum nor discourages any teacher from integrating technology into curriculum and instruction.

Subp. 2. Licensure requirements. A candidate for licensure endorsement to teach keyboarding for computer applications to students in grades kindergarten through 8 shall hold or qualify for a valid Minnesota classroom teaching license and must have successfully completed a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure endorsement as a teacher of keyboarding for computer applications under this part.

Subp. 3. Subject matter standard. A candidate for licensure endorsement as a teacher of keyboarding for computer applications in grades kindergarten through 8 must successfully complete a preparation program under subpart 2 that includes the candidate's demonstration of the knowledge and skills in items A and B.

A. A teacher of keyboarding for computer applications understands and applies:

(1) knowledge of computers and similar technology, including hardware, software, file management, care of equipment, security, and ethical issues relating to the use of computers and technology;

(2) knowledge of keyboarding, including techniques, ergonomics, skill development, and editing; and

(3) knowledge of computer applications, including word processing, graphics, multimedia presentations, the Internet, and electronic mail.

B. A teacher of keyboarding for computer applications integrates knowledge of computers, keyboarding, and computer applications with understanding of pedagogy, students, learning, methods, processes of evaluation, classroom management, and professional development. The teacher must:

(1) understand the physical, social, emotional, moral, and cognitive development of students in grades kindergarten through 8;

(2) understand and apply the research base for and the best practices of teaching keyboarding and computer applications to students in grades kindergarten through 8;

(3) develop curriculum goals and purposes based on the central concepts of keyboarding and computer applications and know how to apply instructional strategies and materials for achieving student understanding of this discipline; and

(4) apply the standards under part 8710.2000 to teaching keyboarding and computer applications to students in grades kindergarten through 8 in a variety of clinical experiences.

Subp. 4. Professional license. A professional license shall be issued and renewed according to the rules of the Board of Teaching governing licensure.

Statutory Authority: *MS s 122A.09*

History: *26 SR 700*

8710.4550 LIBRARY MEDIA SPECIALISTS.

Subpart 1. Scope of practice. A library media specialist is authorized to provide to students in kindergarten through grade 12 instruction that is designed to provide information skills instruction, to collaborate and consult with other classroom teachers for the purpose of integrating information skills and technology tools with content teaching, and to administer media center operations, programming, and resources.

Subp. 2. Licensure requirements. A candidate for licensure as a library media specialist shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of library media specialists in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a library media specialist must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A library media specialist develops and implements an information media program that reflects the vision, mission, and goals of the school. The specialist must:

(1) identify and apply current educational research, theory, and practice;

(2) use a research and knowledge base to determine the role of information media; and

(3) collaborate in developing short-range and long-range plans for the information media program.

B. A library media specialist develops and implements an information media program that is an integral part of the total curriculum. The specialist must:

(1) participate in curriculum development with teachers across grade levels and disciplines;

(2) plan and conduct a sequential integrated program of instruction in the use of information;

(3) collaborate with teachers of early childhood through adult students to design, implement, and assess learning activities to meet specific learning objectives;

(4) guide students in locating, processing, critically evaluating, and communicating information and to assess the processes and products of the learning;

(5) provide reading, viewing, and listening guidance appropriate to the students' interests, goals, needs, and abilities;

(6) provide leadership and staff development in effective use of technologies, strategies, and resources;

(7) assist teachers in the selection and evaluation of resources;

(8) consider the developmentally appropriate level, format, and curricular objectives in the design and production of media; and

(9) formulate and conduct student learning activities that integrate the use of information media tools.

C. A library media specialist develops and implements information media program policies and procedures consistent with principles of professional practice and appropriate to the mission and goals of the school and district. The specialist must:

(1) monitor needs, usage, and trends to structure and justify program budgets;

(2) administer program budgets in a fiscally sound manner;

(3) develop a collection based on curriculum and learner needs;

(4) acquire, process, organize, maintain, circulate, and inventory resources;

(5) identify and acquire resources beyond the media center to expand information access;

(6) identify personnel needs and supervise personnel;

(7) consult and participate in the planning of the media center facility;

(8) consult and participate in the design of school facilities so that learning technologies can be used;

(9) evaluate program, facilities, and resource collections;

(10) develop and monitor information technology policies and procedures to protect constitutional and statutory rights; and

(11) establish and maintain a learning environment in the media center.

D. A library media specialist initiates and maintains motivating environments that foster the continued professional growth of the learning community. The specialist must:

- (1) model and teach responsible and ethical access to and use of information;
- (2) interpret and promote the information media program;
- (3) disseminate pertinent information about educational and technological trends and legal developments; and
- (4) provide leadership in incorporating research referenced innovations.

E. A library media specialist must demonstrate an understanding of the teaching of information media that integrates understanding of information media with the understanding of pedagogy, students, learning, classroom management, and professional development. The library media specialist for children, preadolescents, and adolescents shall:

- (1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;
- (2) understand and apply the research base for and the best practices of kindergarten and primary, intermediate, and middle and high school education;
- (3) develop curriculum goals and purposes based on the central concepts of information media and know how to apply instructional strategies and materials for achieving student understanding of this discipline;
- (4) understand the role and alignment of district, school, and department mission and goals in program planning;
- (5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;
- (6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;
- (7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;
- (8) understand the impact of reading ability on student achievement in information media, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read library and media materials effectively; and
- (9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with kindergarten and primary, intermediate, middle level, and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** Requirements in this part for licensure as a library media specialist are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4600 TEACHERS OF MATHEMATICS.

Subpart 1. **Scope of practice.** A teacher of mathematics is authorized to provide to students in grades 5 through 12 instruction that is designed to develop understanding and skill in mathematical content and perspectives.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach mathematics in grades 5 through 12 shall:

- A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;
- B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and
- C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of mathematics in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of mathematics must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to I.

A. A teacher of mathematics understands patterns, relations, functions, algebra, and basic concepts underlying calculus from both concrete and abstract perspectives and is able to apply this understanding to represent and solve real world problems. The teacher of mathematics must demonstrate knowledge of the following mathematical concepts and procedures and the connections among them:

- (1) recognize, describe, and generalize patterns and build mathematical models to describe situations, solve problems, and make predictions;
- (2) analyze the interaction between quantities and variables to model patterns of change and use appropriate representations including tables, graphs, matrices, words, ordered pairs, algebraic expressions, algebraic equations, and verbal descriptions;
- (3) represent and solve problem situations that involve variable quantities and use appropriate technology;
- (4) understand patterns present in number systems and apply these patterns to further investigations;
- (5) apply properties of boundedness and limits to investigate problems involving sequences and series;
- (6) apply concepts of derivatives to investigate problems involving rates of change;
- (7) apply concepts and standard mathematical representations from differential, integral, and multivariate calculus; linear algebra, including vectors and vector spaces; and transformational operations to solve problems; and
- (8) apply properties of group and field structures to mathematical investigations.

B. A teacher of mathematics understands the discrete processes from both concrete and abstract perspectives and is able to identify real world applications; the differences between the mathematics of continuous and discrete phenomena; and the relationships involved when discrete models or processes are used to investigate continuous phenomena. The teacher of mathematics must demonstrate knowledge of the following mathematical concepts and procedures and the connections among them:

- (1) the application of discrete models to problem situations using appropriate representations such as sequences, vertex-edge graphs and trees, matrices, and arrays;
- (2) application of systematic counting techniques to problem situations including determination of the existence of a solution, the determination of the number of possible solutions, or the optimal solution;
- (3) application of discrete mathematics strategies, for example, pattern searching, organization of information, sorting, case-by-case analysis, iteration and recursion, and mathematical induction, to investigate, solve, and extend problems;
- (4) exploration, development, analysis, and comparison of algorithms designed to accomplish a task or solve a problem;
- (5) application of additional discrete strategies including symbolic logic and linear programming;
- (6) matrices as a mathematical system and matrices and matrix operations as tools to record information and find solutions of systems of equations; and
- (7) analysis of iterative and recursive algorithms to estimate the time needed in order to execute the algorithms for data likely to be encountered in problem situations.

C. A teacher of mathematics understands that number sense is the underlying structure that ties mathematics into a coherent field of study, rather than an isolated set of rules, facts, and formulae. The teacher of mathematics must demonstrate knowledge of the following mathematical concepts and procedures and the connections among them:

- (1) an intuitive sense of numbers including a sense of magnitude, mental mathematics, place value, and a sense of reasonableness of results;
- (2) an understanding of number systems, their properties and relations including whole numbers, integers, rational numbers, real numbers, and complex numbers;
- (3) translation among equivalent forms of numbers to facilitate problem solving;

(4) application of appropriate methods of estimation of quantities and evaluation of the reasonableness of estimates;

(5) a knowledge of elementary operations, application of properties of operations, and the estimation of results;

(6) geometric and polar representation of complex numbers and the interpretation of complex solutions to equations;

(7) algebraic and transcendental numbers;

(8) numerical approximation techniques as a basis for numerical integration, numerical-based proofs, and investigation of fractals; and

(9) number theory divisibility, properties of prime and composite numbers, and the Euclidean algorithm.

D. A teacher of mathematics understands geometry and measurement from both abstract and concrete perspectives and is able to identify real world applications and to use geometric learning tools and models, including geoboards, compass and straight edge, rules and protractor, patty paper, reflection tools, spheres, and platonic solids. The teacher of mathematics must demonstrate knowledge of the following mathematical concepts and procedures and the connections among them:

(1) shapes and the ways shapes can be derived and described in terms of dimension, direction, orientation, perspective, and relationships among these properties;

(2) spatial sense and the ways shapes can be visualized, combined, subdivided, and changed to illustrate concepts, properties, and relationships;

(3) spatial reasoning and the use of geometric models to represent, visualize, and solve problems;

(4) motion and the ways in which rotation, reflection, and translation of shapes can illustrate concepts, properties, and relationships;

(5) formal and informal argument, including the processes of making assumptions; formulating, testing, and reformulating conjectures; justifying arguments based on geometric figures; and evaluating the arguments of others;

(6) plane, solid, and coordinate geometry systems including relations between coordinate and synthetic geometry, and generalizing geometric principles from a two-dimensional system to a three-dimensional system;

(7) attributes of shapes and objects that can be measured, including length, area, volume, capacity, size of angles, weight, and mass;

(8) the structure of systems of measurement, including the development and use of measurement systems and the relationships among different systems;

(9) measuring, estimating, and using measurements to describe and compare geometric phenomena;

(10) systems of geometry, including Euclidean, non-Euclidean, coordinate, transformational, and projective geometry;

(11) transformations, coordinates, and vectors, including polar and parametric equations, and the use of these in problem solving;

(12) three-dimensional geometry and its generalization to other dimensions;

(13) topology, including topological properties and transformations;

(14) extend informal argument to include more rigorous proofs; and

(15) extend work with two-dimensional right triangles including unit circle trigonometry.

E. A teacher of mathematics uses a variety of conceptual and procedural tools for collecting, organizing, and reasoning about data; applies numerical and graphical techniques for representing and summarizing data; and interprets and draws inferences from these data and makes decisions in a wide range of applied problem situations. The teacher of mathematics must demonstrate knowledge of the following mathematical concepts and procedures and the connections among them:

(1) data and its power as a way to explore questions and issues in our world;

(2) investigation through data including formulating a problem; devising a plan to collect data; and systematically collecting, recording, and organizing data;

(3) data representation to describe data distributions, central tendency, and variance through appropriate use of graphs, tables, and summary statistics;

(4) analysis and interpretation of data, including summarizing data, and making or evaluating arguments, predictions, recommendations, or decisions based on an analysis of the data; and

(5) descriptive and inferential statistics, including validity and reliability.

F. A teacher of mathematics understands how to reduce the uncertainties through predictions based on empirical or theoretical probabilities. The teacher of mathematics must demonstrate knowledge of the following mathematical concepts and procedures and the connections among them:

(1) inference, and the role of randomness and sampling in statistical claims about populations;

(2) probability as a way to describe chance or risk in simple and compound events;

(3) predicting outcomes based on exploration of probability through data collection, experiments, and simulations;

(4) predicting outcomes based on theoretical probabilities, and comparing mathematical expectations with experimental results;

(5) random variable and the application of random variable to generate and interpret probability distributions;

(6) probability theory and the link of probability theory to inferential statistics; and

(7) discrete and continuous probability distributions as a basis for making inferences about population.

G. A teacher of mathematics is able to reason mathematically, solve problems mathematically, and communicate in mathematics effectively at different levels of formality and knows the connections among mathematical concepts and procedures as well as their application to the real world. The teacher of mathematics must be able to:

(1) solve problems in mathematics by:

(a) formulating and posing problems;

(b) solving problems using different strategies, verifying and interpreting results, and generalizing the solution;

(c) using problem solving approaches to investigate and understand mathematics; and

(d) applying mathematical modeling to real world situations;

(2) reason in mathematics by:

(a) examining patterns, abstracting and generalizing based on the examination, and making convincing mathematical arguments;

(b) framing mathematical questions and conjectures, formulating counter-examples, and constructing and evaluating arguments; and

(c) using intuitive, informal exploration, and formal proof.

(3) communicate in mathematics by:

(a) expressing mathematical ideas orally, visually, and in writing;

(b) using the power of mathematical language, notation, and symbolism; and

(c) translating mathematical ideas into mathematical language, notations, and symbols; and

(4) make mathematical connections by:

(a) demonstrating the interconnectedness of the concepts and procedures of mathematics;

(b) making connections between mathematics and other disciplines;

(c) making connections between mathematics and daily living; and

(d) making connections between equivalent representations of the same concept.

H. A teacher of mathematics must:

- (1) understand the historical bases of mathematics, including the contributions made by individuals and cultures, and the problems societies faced that gave rise to mathematical systems;
- (2) recognize that there are multiple mathematical world views and how the teacher's own view is similar to or different from that of the students;
- (3) understand the overall framework of mathematics including the:
 - (a) processes and consequences of expanding mathematical systems;
 - (b) examination of the effects of broad ideas, including operations or properties, as these ideas are applied to various systems;
 - (c) examination of the same object from different perspectives; and
 - (d) investigation of the logical reasoning that takes place within a system; and
- (4) understand the role of technology, manipulatives, and models in mathematics.

I. A teacher of mathematics must demonstrate an understanding of the teaching of mathematics that integrates understanding of mathematics with the understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of mathematics to preadolescent and adolescent students shall:

- (1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;
- (2) understand and apply the research base for and the best practices of middle level and high school education;
- (3) develop curriculum goals and purposes based on the central concepts of mathematics and know how to apply instructional strategies and materials for achieving student understanding of this discipline;
- (4) understand the role and alignment of district, school, and department mission and goals in program planning;
- (5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;
- (6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;
- (7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;
- (8) understand the impact of reading ability on student achievement in mathematics, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read mathematical content materials more effectively; and
- (9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of mathematics are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4650 TEACHERS OF VOCAL MUSIC AND OF INSTRUMENTAL MUSIC.

Subpart 1. **Scope of practice.** A teacher of vocal music is authorized to provide to students in kindergarten through grade 12 instruction that is designed to develop vocal music competence and understanding of general music history, theory, and practice. A teacher of instrumental music is authorized to provide to students in kindergarten through grade 12 in-

struction that is designed to develop instrumental music competence and understanding of general music history, theory, and practice.

Subp. 2. Licensure requirements. A candidate for licensure to teach vocal music or instrumental music to students in kindergarten through grade 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of vocal music and of instrumental music.

Subp. 3. Subject matter standard. A candidate for licensure as a teacher of vocal music or instrumental music must complete a program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A, B, and D or A, C, and D.

A. All music teachers must have the ability to:

(1) identify and analyze representative musical forms, styles, performance contexts, performance media, and composers and compositions of western music, and describe the musical traditions, context, and characteristics of diverse and representative world cultures;

(2) demonstrate a basic knowledge of vocal development and production and instrumental techniques and acoustics;

(3) perform simple keyboard accompaniments and play parts from a musical score;

(4) demonstrate basic skills and techniques for playing typical classroom instruments including recorder or fretted instruments;

(5) demonstrate competence in improvising, composing, and arranging music examples for diverse developmental and ability groupings represented by students;

(6) demonstrate physical response to music through movement or dance;

(7) identify and reproduce intervals, scales, and chord structures;

(8) demonstrate a basic knowledge of approaches to general music instruction, materials, and literature for students of varying abilities;

(9) demonstrate the understandings and skills necessary to choose appropriate current technology and integrate its use into instruction for music classroom and ensemble settings in kindergarten through grade 12; and

(10) demonstrate a basic knowledge of the interrelationship of music with other art forms and disciplines.

B. A teacher of vocal music must:

(1) demonstrate advanced vocal ensemble performance and advanced solo performance with the voice, keyboard, or guitar and demonstrate musical accuracy and expressiveness using music examples from diverse styles and time periods;

(2) demonstrate ability to accompany a vocal ensemble on a keyboard instrument;

(3) interpret choral music scores with an understanding of range, tessitura, phrasing, diction, and articulation;

(4) interpret vocal and instrumental scores and understand percussion, string, or wind instrument requirements necessary for interpreting and producing music from scores;

(5) know vocal and choral instructional materials and solo and ensemble repertoire, representing diverse periods and cultures, and beginning, intermediate, and advanced levels from kindergarten through grade 12;

(6) demonstrate understandings and skills of vocal performance pedagogy and vocal health, including the child voice and the changing voice;

(7) rehearse and conduct small and large vocal and choral performance ensembles; and

(8) improvise using keyboard or voice.

C. A teacher of instrumental music must:

(1) demonstrate advanced solo and ensemble performance on at least one instrument of the keyboard, percussion, string, or wind families and demonstrate musical accuracy and expressiveness using music examples from diverse styles and time periods;

(2) interpret scores designed for instrumental ensembles and understand bowing, fingering, or articulation specific to percussion, string, and wind instruments;

(3) interpret combined vocal and instrumental scores and understand vocal requirements necessary for interpreting and producing music from scores;

(4) know instrumental instructional materials and solo and ensemble repertoire, representing diverse periods and cultures, and beginning, intermediate, and advanced levels;

(5) demonstrate understandings and skills or performance pedagogy for percussion, string, and wind instruments;

(6) rehearse and conduct small and large instrumental ensembles;

(7) improvise by means of a keyboard, percussion, string, or wind instrument; and

(8) understand the fundamentals of the construction, operation, and repair of percussion, string, and wind instruments.

D. All teachers of music must demonstrate an understanding of the teaching of music that integrates understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of music shall:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;

(2) understand and apply the research base for and the best practices of kindergarten or primary, intermediate, and middle level and high school education;

(3) develop curriculum goals and purposes based on the central concepts of vocal or instrumental music and know how to apply instructional strategies and materials for achieving student understanding of this discipline;

(4) understand the role and alignment of district, school, and department mission and goals in program planning;

(5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(8) understand the impact of reading ability on student achievement in music, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read music content materials more effectively; and

(9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with kindergarten or primary, intermediate, middle level, and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements of this part for licensure as a teacher of vocal music or of instrumental music are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4700 TEACHERS OF PHYSICAL EDUCATION.

Subpart 1. **Scope of practice.** A teacher of physical education is authorized to provide to students in kindergarten through grade 12 instruction that is designed to enhance physical growth and development through learning to move and learning through movement.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach physical education to students in kindergarten through grade 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of physical education.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of physical education must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. A teacher of physical education understands and applies the skills necessary to perform varied physical activities including:

- (1) essential elements and sequencing of basic motor skills;
- (2) individual, dual, and team activities; lifetime fitness activities; fundamental gymnastics; rhythms and dance, for example, singing games and folk, square, ballroom, creative, contemporary, and modern dance; low organization, lead up, and cooperative games; aquatics; aerobics, body mechanics, conditioning exercises, and strength training;
- (3) appropriate instructional cues and prompts for basic motor skills and physical activity; and
- (4) how to support and encourage learner expression through movement.

B. A teacher of physical education understands disciplinary knowledge of physical activities and well-being, including:

- (1) the organic, skeletal, and neuromuscular structures of the human body and how these structures adapt and contribute to physical activity, motor performance, fitness, and wellness;
- (2) concepts and strategies related to physical activity and fitness;
- (3) disciplinary concepts and principles to skillful movement and physical activity;
- (4) interdisciplinary learning experiences that allow students to integrate knowledge, skills, and methods of inquiry from multiple subject areas;
- (5) organization and administration of physical education programs;
- (6) etiquette, sportsmanship, and officiating;
- (7) selection and use of appropriate supplies and equipment;
- (8) safety issues to consider when planning and implementing instruction;
- (9) appropriate emergency procedures;
- (10) safety, CPR, first aid procedures, and prevention and care of injuries;
- (11) the relationship among physical activity, fitness, and health including developmental adaptive physical education programs;
- (12) historical, philosophical, sociological, and psychological factors associated with varied physical activities; and
- (13) health-related concepts, concerns, assumptions, debates, processes of inquiry, and personal hygiene central to the study of physical activity.

C. A teacher of physical education must demonstrate an understanding of the teaching of physical education that integrates understanding of physical education with the understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of physical education to children, preadolescents, and adolescents must:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;

(2) understand and apply the research base for and the best practices of kindergarten and primary, intermediate, and middle and high school education;

(3) understand the benefits and implications of, and how to, promote lifelong physical recreation;

(4) develop curriculum goals and purposes based on the central concepts of physical education and know how to apply instructional strategies and materials for achieving student understanding of this discipline;

(5) understand the role and alignment of district, school, and department mission and goals in program planning;

(6) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(7) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(8) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(9) understand the impact of reading ability on student achievement in physical education studies, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read physical education content materials; and

(10) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with kindergarten and primary, intermediate, middle level, and high school students within a range of educational programming models.

Subp. 4. Continuing license. A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. Effective date. The requirements in this part for licensure as a teacher of physical education are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4725 TEACHERS OF READING.

Subpart 1. Scope of practice. A teacher of reading is authorized to facilitate and provide for kindergarten through grade 12 students instruction that is designed to develop reading skills, strategies, and comprehension. The teacher of reading is also authorized to provide assistance to teachers who have responsibility for providing reading instruction. Nothing in this part restricts teachers of elementary education or teachers of special education from providing reading instruction to students they are licensed to teach nor restricts any other teacher from providing instruction in reading in their content areas.

Subp. 2. Licensure requirements. A candidate for licensure to teach reading to students in kindergarten through grade 12 shall:

A. hold or qualify for a full professional license valid for:

(1) classroom teaching, as defined in part 8710.0300, in one or more of the following student levels: elementary, middle, or secondary;

(2) kindergarten through grade 12 special education teaching under parts 8710.5000 to 8710.5800; or

(3) adult basic education teaching under part 8710.4000; and

B. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of reading including standards under subpart 3.

Subp. 3. Subject matter standard. A candidate for licensure as a teacher of reading must complete a preparation program under subpart 2, item B, that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. A teacher of reading understands the reading process and the process of learning to read and can design developmentally appropriate curriculum and instruction that advance students' reading proficiency and encourage them to value reading. The teacher knows and can apply research, theory, and best practices to teach and foster:

- (1) emergent reading skills such as phonemic awareness, alphabet recognition, and understanding that printed words convey meaning;
- (2) word recognition skills including phonics, blending, structural analysis, and contextual analysis;
- (3) developing an initial sight vocabulary and an increasingly larger and more complex vocabulary, mastering word-learning strategies such as the use of context and structural analysis, and developing word consciousness;
- (4) fluency and automaticity in both oral and silent reading;
- (5) comprehension and appreciation of a wide range of children's, adolescent, and adult narratives;
- (6) comprehension and learning from expository texts such as articles, essays, textbooks, technical manuals, and original documents found in a variety of disciplines and content areas in and out of school;
- (7) comprehension strategies such as adjusting reading approach, activating background knowledge, summarizing, generating questions, constructing mental representations, and self-monitoring;
- (8) understanding, remembering, valuing, and using information gained from reading in and outside of school;
- (9) higher-order thinking skills and behaviors such as thinking independently, withholding judgment, recognizing point of view and bias, and considering multiple solutions;
- (10) writing to advance reading development and learning from text; and
- (11) reading widely and independently for learning, understanding, and enjoyment.

B. A teacher of reading understands how to assess the reading development of individual students and groups of students, how to use assessment data to design appropriate reading curriculum and instruction based on the assessment data, and how to communicate this information to relevant audiences. The teacher of reading understands and can apply:

- (1) best practice in individual and group reading assessment;
- (2) sound principles of analysis and evaluation of individual and group reading assessment data;
- (3) sound principles in assessing, analyzing, and evaluating reading curriculum;
- (4) informed analysis for advising and implementing reading curricular and instructional decisions based on data; and
- (5) best practice in selection of strategies, materials, and instruction for students with a wide range of reading background and skills ranging from students in need of early intervention or remediation to students with exceptionally advanced reading skills and needs.

C. A teacher of reading integrates knowledge of reading with the teacher's understanding of pedagogy, students, learning, classroom management, and professional and instructional development and leadership. The teacher of reading must:

- (1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;
- (2) understand and apply the current knowledge and research-based best practices in reading education at the elementary, middle level, and high school levels and communicate these to colleagues and the wider community;
- (3) understand the role and alignment of district, school, and department missions and goals in reading program planning as well as current state and federal legislation as it relates to reading;

(4) understand, provide, and model instructional strategies to improve student reading across the curriculum;

(5) know fiscal, budgetary, and purchasing practices for operating a comprehensive reading program;

(6) understand and apply the standards of effective practice in teaching students reading through a variety of early and ongoing clinical experiences with elementary, middle level, and high school students within a range of educational programming models;

(7) develop curriculum, strategies, and materials based on the knowledge that reading is the process of constructing meaning through the interaction of the reader's existing knowledge, the information suggested by the written language, and the reading context;

(8) understand and apply instructional and informational technologies and electronic resources to support literacy;

(9) be able to provide professional development that supports supplementing and improving reading instruction and curriculum; and

(10) know what resources are available from professional organizations whose mission is the improvement of literacy.

Subp. 4. Professional license. A professional license shall be issued and renewed according to the rules of the Board of Teaching governing licensure.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *26 SR 700; 30 SR 943*

8710.4750 TEACHERS OF SCIENCE.

Subpart 1. Scope of practice. A teacher of chemistry, earth and space science, life science, or physics is authorized to provide instruction in all science disciplines to students in grades 5 through 8 and either chemistry, earth and space science, life science, or physics, and integrated science offerings, to students in grades 9 through 12. The science discipline that the teacher is qualified to teach in grades 9 through 12 shall be identified on the teacher's license.

Subp. 2. Licensure requirements. A candidate for licensure to teach science to students in grades 5 through 12 shall:

A. hold a baccalaureate degree from a college or university that is accredited by the regional association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8700.2000; and

C. show verification of completing a preparation program approved under part 8700.7600 leading to the licensure of teachers of science in grades 5 through 8 in subpart 3 and chemistry, earth and space science, life science, or physics in grades 9 through 12 in subpart 4, 5, 6, or 7.

Subp. 2a. Exception for candidates with partial science teaching qualification. The board shall issue a license valid for teaching chemistry, earth and space science, life science, or physics in grades 9 through 12 for candidates who complete the requirements of subpart 2, items A and B; and subpart 4, 5; 6; or 7, but have not completed subpart 3. The board shall issue a license to teach all sciences in grades 5 through 8 to a candidate who has completed the requirements of subparts 2, items A and B, and 3 but has not completed subpart 4, 5, 6, or 7. Licenses issued to teach all sciences in grades 5 through 8 under this exception or as a science specialty under part 8710.3200 are not valid for teaching integrated science offerings above grade 9.

Subp. 3. Subject matter standards for science in grades five through eight. A candidate for licensure as a teacher of science in grades 5 through 8 must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of science must demonstrate science perspectives, including:

(1) understanding and conducting science inquiry as evidenced by the ability to:

(a) ask appropriate theoretical or empirical questions about a given system or event that build on current scientific knowledge and can be answered scientifically;

(b) design and conduct, using appropriate methods, technology, and mathematical tools, a scientific investigation to answer a given question;

(c) develop, using appropriate sources of information, qualitative and quantitative solutions to problems;

(d) communicate clearly and concisely, using words, diagrams, tables, graphs, and mathematical relationships, the methods and procedures, results, and conclusions for a given empirical question or problem;

(e) justify a scientific explanation of a given system or event, compared to alternative explanations, based on the available empirical evidence, current scientific understanding, and logical arguments; and

(f) criticize, using knowledge of common errors of evidence and logic, a given science-related claim or argument; and

(2) understanding the history and nature of scientific knowledge as evidenced by the ability to:

(a) describe the evolution of scientific knowledge in a given historical context in terms of the contributions of male and female individuals from various cultures; the influence of society, culture, and personal beliefs of the scientists involved; and the accumulating empirical evidence and logical arguments used to develop the new knowledge;

(b) explain why scientists disagree on a given contemporary controversy in terms of the different assumptions made by the scientists, the different values the scientists place on a particular piece of evidence, and the limitations of the available data or theories, or both; and

(c) explain, using knowledge of the role of empirical evidence and logical argument in science and the assumption that the universe is a vast single system in which the basic rules are everywhere the same, why a given contemporary or historical belief is nonscience.

B. A teacher of science must have the knowledge and ability to make conceptual connections within and across the domains of science and between science and technology. The teacher of science must understand:

(1) connections across the domains of science as evidenced by the ability to:

(a) describe, using words and diagrams, a given technological, biological, physical, earth, or space system in terms of its components, inputs, outputs, and control or feedback;

(b) describe, using a specific example, the use of a given unifying theme or principle in the physical sciences, life sciences, and earth and space sciences; and

(c) explain, using unifying scientific principles, a given set of seemingly unrelated systems or events, both within a science domain and across science domains;

(2) connections between science and technology as evidenced by the ability to:

(a) describe the similarities and differences between the goals and processes of scientific inquiry and the goals and processes of technological design;

(b) explain how the availability of new technology influenced the development of scientific knowledge in a given contemporary or historical context and how the development of new scientific knowledge led to technological advances in a given contemporary or historical context;

(c) explain and predict the possible unexpected benefits and the negative side effects and unintended consequences of a given technological advance;

(d) explain why the contributions of individuals from different scientific disciplines and of technology were necessary for the success of a given contemporary or historical scientific investigation; and

(e) design a modification or use of a system to meet certain needs or criteria in either chemistry, earth and space science, biology, or physics; and

(3) connections between science and other school subjects as evidenced by the ability to:

(a) communicate clearly and precisely, using words, physical models, computer models, demonstrations, diagrams, flow charts, numbers, tables, graphs, and appropriate mathematical relationships, the observations, methods and procedures, results, and conclusions for a given empirical question or problem; explanations of how or why something happens; predictions of what will happen when a change is made; the design for modifying or using a system; and the evaluation of the design against the needs or criteria it was designed to meet;

(b) interpret a given text, physical or computer model, demonstration, diagram, flow chart, set of numbers, table, graph, and appropriate mathematical relationships;

(c) use computer software or graphing calculators to display and analyze data and to model solutions to a prediction or design problem;

(d) explain how mathematics influenced the development of scientific knowledge in a given contemporary or historical context, and how the development of new scientific knowledge led to new mathematics in a given contemporary or historical context; and

(e) describe the impact on society and culture of a given historical development of scientific ideas.

C. A teacher of science understands how knowledge of concepts and principles of science and technology and knowledge of factors influencing personal and community health, population growth, natural resources, environmental quality, and natural and human-induced hazards influence decisions about personal and societal issues. The teacher of science must:

(1) predict the scientific, economic, political, and ethical factors that could influence a course of action to address a given personal issue or local, national, or global challenge;

(2) design, using the systematic approaches of science and scientific knowledge, a course of action to address a personal issue or a given local, national, or global challenge; and

(3) justify and defend a given design for a course of action in terms of an assessment of alternatives, risks, costs, and benefits, and consideration of who benefits and who suffers, who pays and gains, and what the risks are and who bears them.

D. A teacher of science must be able to understand and apply fundamental principles, laws, and concepts of earth and space science, life science, and physical science. The teacher of science must:

(1) know and apply the fundamental principles, laws, and concepts of earth and space science including understanding:

(a) the components and evolution of the Earth system as evidenced by the ability to:

i. describe, using words, diagrams, pictures, and graphs, the physical properties of a given Earth material;

ii. explain, from observation of its composition, texture, and physical state using physical, geological, or biological processes, a plausible way in which a given rock formed through time;

iii. explain, in terms of environmental changes, structural events, plate tectonics, and sedimentary, igneous, metamorphic, and biologic processes, how observed differences within a given rock sequence are related to the various processes that may have formed the rocks;

iv. explain, in terms of environmental changes, structural events, plate tectonics, and sedimentary, igneous, metamorphic, and biologic processes, a plausible way in which a given rock sequence formed through time;

v. explain, in terms of the physical processes that formed it, the origin and development of a given Earth structure;

vi. predict, in terms of known rock sequences, how a given geologic or biologic event might be recorded in a rock sequence; and
 vii. explain, using the fossil record and decay rates of radioactive isotopes, how the age of a given rock is determined;

(b) matter and energy in the Earth system as evidenced by the ability to:

i. explain, using convection, conduction, and radiation, how matter is transported and how energy drives the process of transportation of matter within and between given Earth subsystems or structures;

ii. explain, using convection, conduction, radiation, and conservation of energy, how energy is transmitted and transformed within and between given Earth subsystems or structures;

iii. design a simple physical model that mimics the behavior of a given Earth system; and

iv. describe, using words, diagrams, and chemical equations, the processes involved in the movement of chemical elements or compounds among different given chemical reservoirs in the Earth;

(c) the Earth in the solar system and the universe as evidenced by the ability to:

i. explain how the properties and organization of galaxies provide evidence that the universe is continuously changing;

ii. explain qualitatively, using fundamental processes of chemical, physical, and geological change, how processes of change on a given solar system object are different or similar to Earth;

iii. describe, using words, diagrams, and physical models, the motion of objects in our solar system; and

iv. explain qualitatively, using Earth's axial rotation, tilt of its rotational axis, and changing position with respect to the sun, the seasonal variations in the length of a day and sun angle at various latitudes on Earth; and

(d) human interactions with the earth system as evidenced by the ability to:

i. describe, using words, diagrams, pictures, graphs, historic records, and physical models, the scientific basis for predicting the occurrence of a given environmental hazard on a human time frame;

ii. describe, using words, diagrams, pictures, maps, and physical or computer models, the observed changes in a given Earth system that are due directly or indirectly to human activity; and

iii. predict, using words, diagrams, pictures, maps, and physical or computer models, the probable movement of pollutants in a given Earth system;

(2) know and apply the fundamental principles, laws, and concepts of life science including understanding:

(a) structural and functional relationships in living systems and environments as evidenced by the ability to:

i. perform observations to describe the macroscopic structures of a given common organism;

ii. describe, using words, pictures, and diagrams, the conditions required to sustain life for a given common organism;

iii. describe, using words and diagrams, the characteristics of what determines life in a given common organism;

iv. design a system to support, sustain, and continue the life of a given set of common organisms;

v. describe, using words, pictures, dioramas, and physical or computer models, the structure and function of the components of a given living system in relation to its overall function;

vi. explain, in terms of the function of the organs of that system, the structure of a given plant and animal system;

vii. explain, using structure–function relationships, how and why the structures for a given function are different in different given species;

viii. describe the origins, transmission, prevention, management, or cure of a given disease; and

ix. explain and predict, in terms of the defense mechanism and the method by which the immunity is established, how a given active or passive immunity functions in a human;

(b) molecular and cellular life processes as evidenced by the ability to:

i. perform observations to describe cellular structures and physiological processes;

ii. describe, using words, pictures, and models, the components of a given cell;

iii. explain, in terms of the structure and function of the cell components, the differences between prokaryotic and eukaryotic cells and between given eukaryotic cells;

iv. describe, using words, pictures, and diagrams, the cellular processes of a given plant or animal cell;

v. explain, using the process of photosynthesis, how plants transform solar energy into cellular energy;

vi. explain, using the process of cellular respiration, how energy stored in food molecules is released;

vii. explain, using the process of DNA replication, how proteins are synthesized in a cell;

viii. explain, using the structure–function relationships between cells, tissues, organs, and systems, how cells function as primary building blocks of an organism;

ix. describe, using words, pictures, and models, the physical changes at each given stage of cellular asexual reproduction;

x. describe, using words, diagrams, and charts, how traits are inherited and sex is determined in a given animal; and

xi. explain, using the relationships between genetic change and expression, how a mutation occurs and predict the effect an environmental change will have on the expression of a trait;

(c) diversity and biological evolution as evidenced by the ability to:

i. describe, using words, pictures, and diagrams, the range of physical and behavioral adaptations that can occur in response to environmental stresses for a given species;

ii. describe, using words, diagrams, charts, and graphs, the range of observable characteristics of a given species in a given environment;

iii. explain the speciation process in a given fossil record; and

iv. design, based only on observable structure, a classification key for a given set of organisms; and

(d) the interdependence among living things as evidenced by the ability to:

i. collect and analyze data to describe the diversity and number of species in a given ecosystem;

ii. describe, using words, pictures, and diagrams, the biotic and abiotic components of a given niche, habitat, ecosystem, or biome;

iii. explain, in terms of environmental adaptations and development, the diversity of a given species;

iv. describe, using words and diagrams, the cycling of matter and the flow of energy within a given system;

v. explain and predict the behavioral responses of an animal to a given set of environmental changes; and

vi. design, using environmental changes, an experiment to elicit a specific behavioral response from a given animal; and

(3) know and apply the fundamental principles, laws, and concepts of the physical sciences including understanding:

(a) one-dimensional and two-dimensional linear motion and forces as evidenced by the ability to:

i. perform measurements and calculations to determine the position, average speed, and direction of motion of a given object;

ii. describe, using words, pictures or diagrams, graphs, vectors, and simple mathematical relationships, the vertical and horizontal components of the motion of a given object;

iii. describe, using words and free body vector diagrams, the forces acting on an object in a given system of interacting objects, and explain qualitatively, using Newton's Second and Third Laws, the relationships between all the forces;

iv. describe, using words, energy diagrams or graphs, and simple mathematical relationships, the change of energy of a system and any transfer of energy into or out of a given system of interacting objects; and

v. explain qualitatively, in terms of balanced and unbalanced forces and the conservation of energy, the observed motion of an object in a given system of interacting objects;

(b) vibrations and wave motion as evidenced by the ability to:

i. perform measurements and calculations to describe the wavelength, amplitude, period, and frequency of a given oscillating object or wave;

ii. describe, using words, diagrams, and graphs, the frequency and amplitude of a given simple pendulum or vibrating object;

iii. describe, using words, diagrams, and graphs, the wave motion of a traveling or standing wave in a given medium; and

iv. explain qualitatively, in terms of the changes in the frequency amplitude, wavelength, or wave velocity, the observed changes in the pitch or intensity of a sound when given changes are made to the source, the medium through which the sound travels, or the relative motion of the source or detector;

(c) the behavior of light as evidenced by the ability to:

i. explain qualitatively, using the directionality and chromatic composition of light, how we see a given object and its color;

ii. explain and predict, using ray diagrams, the observed shadows in a simple geometrical system of objects and point or extended light sources;

iii. describe, using words and ray diagrams, the reflection, refraction, transmission, and absorption of light when it encounters an ordinary object, a plain or curved mirror, a prism, and thin concave or convex lenses; and

iv. explain qualitatively, using ray diagrams and the laws of reflection and refraction of light, the observed location and magnification of the real or virtual images for a given pinhole system, simple system of mirrors, or simple system of thin lenses;

(d) electricity and magnetism as evidenced by the ability to:

i. perform measurements to determine the type of charge of a given charged object, and the north and south poles of an unmarked magnet;

ii. explain qualitatively, in terms of the movement of electrons, observed changes in the charge of an object in a given system of interacting charged and uncharged objects;

iii. describe, using words and diagrams, the magnetic field around a straight current carrying wire and a current-carrying solenoid; and

iv. design a circuit using batteries, bulbs, and switches to meet given criteria for the brightness and control of the bulbs;

(e) the properties and structure of matter as evidenced by the ability to:

i. perform measurements and calculations to describe the mass, volume, density, concentration, melting and boiling temperatures, and solubility limits of a given substance;

ii. describe, using words and diagrams, common substances as pure elements or compounds, solutions, suspensions, or colloids;

iii. perform procedures of distillation, precipitation, extraction, or chromatography to separate the substances in a given mixture;

iv. describe, using words and diagrams, the basic atomic and sub-atomic constituents of matter;

v. describe, using the kinetic-molecular theory or intermolecular forces, or both, the arrangement and motion of the atoms, ions, or molecules in a given gas, liquid, or solid substance, and explain the characteristic properties of the substance;

vi. explain and predict, using the principles for filling the electron orbital of atoms and the Periodic Table, the periodic trends in electrical conductivity, ionization, and metallic character of a given set of elements;

vii. predict, using the Periodic Table, whether the bonding in a given substance is primarily covalent, metallic, or ionic;

viii. describe, with words and diagrams, the electrical conductivity of a given conductor, insulator, or semiconductor using periodic trends;

ix. describe, in words and diagrams using conservation of mass and energy, the changes in matter and energy that occur in the nuclear processes of radioactive decay, fission, and fusion; and

x. describe, with words, structural and chemical diagrams and formulas, and physical and computer models, the unique structure of carbon, and explain how that structure results in the large variety of organic molecules;

(f) chemical reactions as evidenced by the ability to:

i. describe, using words, diagrams, physical or computer models, and a balanced chemical equation, changes in the energy and arrangement of atoms for a given chemical reaction;

ii. describe, using words, diagrams, and chemical symbols, a given chemical reaction as oxidation-reduction, acid-base, free radical, precipitation, metathesis, or a combination of these; and

iii. explain and predict qualitatively, using solubility rules, the common oxidation states of elements, the activity series of metals and nonmetals, the stability of radicals, and the properties of acids and bases, the most likely type of reaction for a given set of given reactants;

(g) thermodynamics as evidenced by the ability to:

i. describe, using words and pictures or diagrams, the characteristics of an ideal gas;

ii. describe and predict, using words, graphs, and mathematical relationships, changes in pressure, volume, or temperature of a given ideal gas;

iii. describe, using words, diagrams, and energy graphs, the changes in the enthalpy and entropy during a given chemical reaction; and

iv. explain qualitatively, using the First and Second Laws of Thermodynamics energy, changes in a given spontaneous or nonspontaneous reaction; and

(h) chemical kinetics and equilibrium as evidenced by the ability to:

i. explain, using the requirements for effective particle collisions and activation energy, why a given spontaneous reaction is fast or slow, and predict the conditions necessary to make the reaction occur more rapidly;

ii. explain, using the concept of activation energy and the requirements for effective particle collisions, how a given catalyst increases the rate of a given reaction;

iii. explain, using the kinetic-molecular model, how a given change in temperature, concentration, or particle surface area changes the rate of a given chemical reaction;

iv. describe, using words, diagrams, chemical equations, and concentration graphs, the equilibrium of a given reaction;

v. explain, in terms of changes in the number of effective collisions of the molecules in the forward and reverse reaction, why the chemical equilibrium of a given reaction is a dynamic process; and

vi. explain and predict change in the equilibrium of a given chemical reaction when the temperature changes, the pressure changes, a catalyst is added, or the concentration of reactants or products changes.

E. A teacher of science must have a broad-based knowledge of teaching science that integrates knowledge of science with knowledge of pedagogy, students, learning environments, and professional development. A teacher of science must understand:

(1) curriculum and instruction in science as evidence by the ability to:

(a) select, using local, state, and national science standards, appropriate science learning goals and content;

(b) plan a coordinated sequence of lessons and instructional strategies that support the development of students' understanding and nurture a community of science learners including appropriate inquiry into authentic questions generated from students' experiences; strategies for eliciting students' alternative ideas; strategies to help students' understanding of scientific concepts and theories; and strategies to help students use their scientific knowledge to describe real-world objects, systems, or events;

(c) plan assessments to monitor and evaluate learning of science concepts and methods of scientific inquiry; and

(d) justify and defend, using knowledge of student learning, research in science education, and national science education standards, a given instructional model or curriculum;

(2) safe environments for learning science as evidenced by the ability to:

(a) use required safety equipment correctly in classroom, field, and laboratory settings;

(b) describe, using knowledge of ethics and state and national safety guidelines and restrictions, how to make and maintain a given collection of scientific specimens and data;

(c) describe, using knowledge of ethics and state and national safety guidelines and restrictions, how to acquire, care for, handle, and dispose of live organisms;

(d) describe, using state and national guidelines, how to acquire, care for, store, use, and dispose of given chemicals and equipment used to teach science;

(e) implement safe procedures during supervised science learning experiences in the public schools; and

(f) develop a list of materials needed in an elementary science safety kit;

(3) how to apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;

(4) how to apply the research base for and the best practices of middle level and high school education;

(5) how to develop curriculum goals and purposes based on the central concepts of science and how to apply instructional strategies and materials for achieving student understanding of the discipline;

(6) the role and alignment of district, school, and department mission and goals in program planning;

(7) the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(8) how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(9) the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(10) the impact of reading ability on student achievement in science, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read science content more effectively; and

(11) how to apply the standards of effective practice in teaching through a variety of early and ongoing clinical experiences with middle level and high school students within a range of educational programming models.

Subp. 4. Subject matter standards for teachers of chemistry. A candidate for licensure as a teacher of chemistry in grades 9 through 12 must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. A teacher of chemistry must demonstrate a conceptual understanding of chemistry. The teacher must:

(1) use sources of information to solve unfamiliar quantitative problems and communicate the solution in a logical and organized manner as evidenced by the ability to:

(a) describe, in terms of the known and unknown quantities, a given problem in appropriate pictorial, graphical, or written forms;

(b) describe, in terms of the relevant numerical and algebraic quantities and equations, a given problem mathematically;

(c) plan, using words, diagrams, and mathematical relationships, a solution for a given problem in terms of steps necessary to solve the problem and to verify the solution; and

(d) evaluate, in terms of unit consistency, reasonableness, and completeness of solution, the solution of a given problem;

(2) use computers to display and analyze experimental and theoretical data as evidenced by the ability to:

(a) describe data graphically using a computer; and

(b) design a mathematical model to provide a reasonable fit to a given set of data; and

(3) develop a plan to ensure a safe environment and practices in chemistry learning activities.

B. A teacher of chemistry must demonstrate a knowledge of chemistry concepts. The teacher must:

(1) understand the properties and structure of matter as evidenced by the ability to:

(a) explain and predict, using the principles for filling the electron orbitals of atoms and the Periodic Table, the periodic trends in electrical conductivity, atomic radii, ionization energy, electronegativity, electron affinity, and metallic character of a given set of elements;

(b) predict, using the Periodic Table and the arrangement and energies of the element's outermost electrons, whether the bonding in a given substance is primarily covalent, metallic, or ionic;

(c) explain and predict, using the periodic trends in the physical and chemical characteristics of the elements and the type of bonds, or intermolecular forces, or both, the relative magnitudes of a given property for a set of elements or compounds;

(d) predict, using existing models including the Valence Shell electron Pair Repulsion theory, the shape of a given molecule; and

(e) describe, with words and diagrams using neutron to proton ratios and binding energies, the changes in matter and energy that occur in the nuclear processes of radioactive decay, fission, fusion, and other common nuclear transformations;

(2) understand chemical reactions as evidenced by the ability to:

(a) perform measurements and calculations to determine the chemical formulas of the products of a given chemical reaction;

(b) explain and predict qualitatively and quantitatively, using the Periodic Table and the concept of chemical stoichiometry, the mass relationships between reactants and products for a given chemical reaction;

(c) predict quantitatively, using the principle of state functions and Hess's Law, the molar heat of a given reaction from known values of molar heats of formation or molar heats of a series of related reactions; and

(d) explain and predict qualitatively and quantitatively, using solubility rules, the common oxidation states of elements, the activity series of metals and nonmetals, stability of radicals, and the properties of acids and bases, the most likely type of reaction for a given set of given reactants;

(3) understand thermodynamics as evidenced by the ability to:

(a) perform measurements and calculations to determine the molar heat energy absorbed or released in a given phase change or chemical reaction;

(b) predict qualitatively and quantitatively, using the Ideal Gas Law, changes in the pressure, volume, temperature, or quantity of gas in a given thermally isolated ideal gas system when the gas is heated or cooled, is compressed or expanded adiabatically, or enters or leaves the system;

(c) describe, using words, diagrams, energy graphs, and mathematical relationships, the changes in the enthalpy, entropy, and Gibb's free energy during a given chemical reaction;

(d) explain and predict qualitatively and quantitatively, using the First and Second Laws of Thermodynamics and the relationship between Gibb's free energy and the equilibrium constant, changes in the equilibrium and Gibb's free energy for a given change in the reaction conditions;

(e) design, using Gibb's free energy, a method for changing the direction of spontaneity of a given reaction; and

(f) explain qualitatively and quantitatively, using Gibb's free energy, how the electrochemical potential of a given cell depends on given changes in the temperature or the concentration of ions in solution, or both;

(4) understand chemical kinetics and equilibrium as evidenced by the ability to:

(a) perform measurements and calculations to determine the rate of a chemical reaction, the rate expression, half-life of given reaction, the activation energy of a given reaction, and the equilibrium constant of a given reaction;

(b) describe, using words, energy diagrams, graphs, and mathematical relationships, the activation energy, enthalpy changes, and reaction rate of a given reaction;

(c) explain and predict qualitatively and quantitatively, using the rate equation for the reaction, changes in the reaction rate for a given change in the concentration of a reactant or product;

(d) predict, using the rate equation and the presence or absence of intermediates, a possible mechanism for a given reaction;

(e) describe, using words, diagrams, chemical equations, concentration and rate graphs, and mathematical relationships, the equilibrium of a given reaction;

(f) explain, in terms of changes in the number of effective collisions of the molecules in the forward and reverse reaction, why the chemical equilibrium of a given reaction is a dynamic process;

(g) explain and predict quantitatively, using the equilibrium constant, the concentration of a reactant or product in a given gas phase or solution chemical reaction;

(h) design, using LeChatelier's principle, a method for achieving a specified change in the equilibrium constant or the position of equilibrium of a given chemical reaction; and

(i) design, using the rate laws and requirements for effective collisions, a method for achieving a specified change in the rate of a given chemical reaction; and

(5) understand organic and biochemical reactions as evidenced by the ability to:

(a) perform measurements and calculations to determine the melting point, boiling point, solubility, or other common physical properties of an organic compound;

(b) describe, using words, structural and chemical formulas, and physical and computer models, the functional groups and polarity of the molecule of a given organic compound;

(c) describe, using words, structural and chemical formulas, and physical or computer models, a given hydrocarbon compound as aromatic or aliphatic; saturated or unsaturated; alkanes, alkenes, or alkynes; and branched or straight chains;

(d) explain and predict, using a molecular orbital model of the pi-bond, the outcomes of reactions of given aromatic, allylic and conjugated alkenes, and other delocalized electron systems;

(e) explain and predict, using functional groups, structure, and polarity, the reactivity, solubility, melting point, and boiling point of an organic compound;

(f) predict, using infrared, nuclear magnetic resonance, and mass spectra, the structure of an organic molecule;

(g) design and carry out a single step synthesis of an organic compound, purify the compound, and characterize the product;

(h) describe, using words, diagrams, structural and chemical formulas, and physical and computer models, the origin of optical activity of a given chiral organic compound;

(i) explain why the reactivity of a chiral compound depends on its stereochemistry when acted upon by a living system, and predict whether a particular substrate enantiomer would or would not react with its enzyme;

(j) describe, using words, structural and chemical formulas, and physical and computer models, a given set of biomolecules as a carbohydrate, lipid, protein, or nucleic acid, and explain how biomolecules are made from typical chemical components by chemical reactions;

(k) perform tests and measurements to determine if a given biological substance is a carbohydrate, lipid, protein, or nucleic acid;

(l) explain, using the concepts of electrostatic attraction, repulsion, and stereochemistry in the catalytic process, how enzymes facilitate a given biochemical reaction; and

(m) design a method to use organic compounds to demonstrate a given general chemical principle.

C. A teacher of chemistry must demonstrate an advanced conceptual understanding of chemistry and the ability to apply its fundamental principles, laws, and concepts by completing a full research experience. The teacher must:

(1) identify various options for a research experience including independent study projects, participation in research with an academic or industry scientist, directed study, internship, or field study;

(2) select an option and complete a research experience that includes conducting a literature search on a problem;

(3) design and carry out an investigation;

(4) identify modes for presenting the research project; and

(5) present the research project in the selected mode.

Subp. 5. Subject matter standards for teachers of earth and space science. A candidate for licensure as a teacher of earth and space science in grades 9 through 12 must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. A teacher of earth and space science must demonstrate a conceptual understanding of earth science. The teacher must:

(1) use sources of information to solve unfamiliar qualitative and quantitative problems and communicate the solution in a logical and organized manner as evidenced by the ability to:

(a) describe, in terms of the known and unknown quantities, a given problem in appropriate pictorial, graphical, or written forms;

(b) translate a given topographical or geological map into a cross-sectional view;

(c) describe qualitatively in appropriate terms, using words, stratigraphic columns, flow charts, maps, cross-sectional views, graphs, and drawings as necessary, a given problem situation;

(d) plan, using words, diagrams, pictures, and simple mathematical relationships, a solution for a given problem in terms of steps necessary to solve the problem and to verify the solution; and

(e) evaluate, in terms of unit consistency, reasonableness, and completeness of solution, the solution of a given problem;

(2) use computers to display and analyze experimental and theoretical data as evidenced by the ability to:

(a) describe data graphically using a computer; and

(b) design a mathematical model to provide a reasonable fit to a given set of data; and

(3) develop a plan to ensure a safe environment and practices in all earth and space science learning activities.

B. A teacher must demonstrate knowledge of earth and space science concepts. The teacher must:

(1) understand the components that make up the Earth system as evidenced by the ability to:

(a) perform measurements and statistical analyses to describe the physical properties of a given Earth material;

(b) explain for a given Earth material, in terms of chemical bond strength and chemical composition, how physical properties are related to basic chemical structure;

(c) describe, using words, pictures, diagrams, maps or globes, and satellite images, the component materials, large scale structures, and dominant physical processes of a given Earth subsystem; and

(d) explain, using seismic evidence, laboratory simulations of Earth-interior conditions, terrestrial and extraterrestrial samples, and models of chemical differentiation, how we know the interior of the Earth is segregated chemically and physically into layers;

(2) understand energy in the Earth system as evidenced by the ability to:

(a) describe, using words, pictures, diagrams, and physical or computer models, the radiant, chemical, nuclear, and gravitational energies of a given Earth subsystem or structure;

(b) describe, using words, pictures, diagrams, and physical or computer models, the flow of energy within and between given Earth subsystems or structures;

(c) describe, using words, pictures, diagrams, mathematical and chemical equations, physical or computer models, and electronic data sets, the transportation of matter within and between given Earth subsystems and structures; and

(d) explain and predict, in terms of conservation of energy, dynamic equilibrium, and geologic or atmospheric models, changes in behavior of an Earth subsystem or structure due to a given change in energy;

(3) understand geochemical cycling as evidenced by the ability to:

(a) explain, in terms of reaction equilibrium and disequilibrium and mass balance, how chemical elements and compounds in a given simple Earth system are distributed;

(b) explain and predict quantitatively and qualitatively, using related experimental data and the principles of mass balance and chemical equilibrium, how the concentration of an element or compound will change in a given reservoir interacting with another given reservoir;

(c) describe, using words, pictures, and diagrams, the concentration and depletion of given elements or compounds in a given reservoir; and

(d) explain, using mass balance, advection, convection, and chemical equilibrium, the process by which a given depletion or concentration of elements or compounds could have occurred in a given reservoir;

(4) understand the origin and evolution of the universe as evidenced by the ability to:

(a) describe, using words, drawings, and graphs, the properties of a given galaxy;

(b) explain, using the observed distribution of structural types, the relationship between astronomical distances and age, and the Big Bang theory, how differences in the composition and types of galaxies and the organization of galaxies into systems lead us to conclude that the universe is continuously changing;

(c) perform measurements to describe the spectral distribution of light from a given star;

(d) explain and predict, using the Hertzsprung–Russell Diagram, distance to the star, and stellar models, the changes in mass, luminosity, and size of a given star as it evolves from birth to death;

(e) explain, using models of stellar evolution, how stars die and become neutron stars and black holes;

(f) explain, using theories for nuclear stabilities and nuclear reactions, how elements can be formed in stars and novae;

(g) describe, using words, pictures, diagrams, and mathematical relationships, the distance over which a given astronomical distance scale is accurate; and

(h) explain, using blackbody radiation and quantization of energy levels, how to determine the temperature and elemental composition of a stellar object from its spectral signature;

(5) understand the Earth in the solar system as evidenced by the ability to:

(a) describe, with words, chemical formulas, drawings, scaled diagrams, and numerical orders of magnitude, the mass, size, and composition for a given solar system object;

(b) explain and predict, using geologic and climatic stability, availability of nutrients, and atmospheric parameters, the suitability for life for a given planetary description;

(c) explain and predict quantitatively and qualitatively, using Newton's laws of motions and gravitation and conservation of momentum, the motion of the bodies of a given solar system;

(d) explain, with words, diagrams, and models using orbital paths and relative sizes of solar system objects, the locationally dependent observation of solar and lunar eclipses and phases of the moon for a given simple solar system;

(e) explain, using Newton's laws of motion and gravitation and relative orbital positions, the origin of oceanic tides on the Earth; and

(f) design a physical solar–planetary model to demonstrate eclipses and lunar phases;

(6) understand the evolution of the Earth as evidenced by the ability to:

(a) perform measurements to describe the physical properties of a given rock sequence;

(b) describe, using words, pictures, and diagrams, the composition, textures, spatial relationships, and fossil content of a given rock sequence;

(c) explain, in terms of type and quantity of fossils, isotopic concentrations, unconformities, rock types, and rock sequences, the connection between a given major biospheric change and the rock and fossil record and a given major lithospheric change and the rock and fossil record;

(d) explain, using the principle of actualism, the relationship between features seen in the rock record and processes observable in the Earth today;

(e) predict, in terms of known rock sequences and the principle of actualism, how a given geologic or biologic event might be recorded in a rock sequence; and

(f) explain, using the fossil record and decay rates of radioactive isotopes, how the age of a given rock is determined; and

(7) understand human interactions with the Earth system as evidenced by the ability to:

(a) describe, using words, charts, figures, and maps or globes, the present distribution of a given natural resource;

(b) explain, using words, charts, figures, illustrations, and maps, how the distribution of a given resource has affected the distribution and history of human society;

(c) predict, in terms of present trends, possible alternative resources, and changes in technology or social structure, the plausible impacts on human society of future changes in the availability of a given natural resource;

(d) describe, using words, charts, figures, and maps or globes, a given occurrence of an environmental hazard;

(e) predict, in terms of direct and indirect, short-term and long-term effects, the probable impacts of a given environmental hazard on human society;

(f) explain, in terms of chemical changes, physical modifications, and changes in energy, how human activity impacts a given Earth system;

(g) predict, in terms of direct and indirect, short-term and long-term effects, the probable effects of a given human activity on an Earth system;

(h) explain, using words, diagrams, graphs, and maps, how it is known that there have been long-term changes in climate and sea level during the course of human existence;

(i) explain, using words, diagrams, pictures, and maps, how observed changes in climate and sea level may have impacted the history of human development; and

(j) predict, in terms of changes in resource availability, production, population size and distribution, and current social structures, the probable impacts of future changes in climate or sea level on human society.

C. A teacher of earth and space science must demonstrate an advanced conceptual understanding of earth and space science and the ability to apply its fundamental principles, laws, and concepts by completing a full research experience. The teacher must:

(1) identify various options for a research experience including independent study projects, participation in research with an academic or industry scientist, directed study, internship, or field study;

(2) select an option and complete a research experience that includes conducting a literature search on a problem;

(3) design and carry out an investigation;

(4) identify modes for presenting the research project; and

(5) present the research project in the selected mode.

Subp. 6. Subject matter standards for teachers of life science. A candidate for licensure as a teacher of life science in grades 9 through 12 must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. A teacher of life science must demonstrate a conceptual understanding of life science. The teacher must:

(1) use sources of information to solve unfamiliar quantitative problems and communicate the solution in a logical and organized manner as evidenced by the ability to:

(a) describe, using appropriate alternative forms including pictorial, graphical, or written descriptions, the known and unknown quantities of a given problem; and

(b) describe, in terms of the relevant numerical and algebraic quantities and equations required to solve the problem, the relevant numerical and algebraic quantities and equations required to solve a given problem mathematically;

(2) use computers to display and analyze experimental and theoretical data as evidenced by the ability to:

(a) describe data graphically using a computer; and
 (b) design a mathematical model to provide a reasonable fit to a given set of data;

(3) use mean, standard deviation, chi-squared, linear regression, and correlation to describe and analyze experimental and theoretical data; and

(4) develop a plan to ensure a safe environment and practices in all life science learning activities.

B. A teacher of life science must demonstrate knowledge of biological concepts. The teacher must:

(1) understand structural and functional relationships as evidenced by the ability to:

(a) perform observations to describe the structures of a given common organism;

(b) describe, using words, descriptions of appropriate experimental procedures, and diagrams, the characteristics of what determines life in a given common organism;

(c) predict, using structure-function relationships, the system function from which a given set of plant and animal tissue samples is derived;

(d) describe, using words, diagrams, and pictures, immune system responses that take place in human cells, tissues, organs, and organ systems throughout the progression of a given viral, bacterial, fungal, and parasitic disease; and

(e) design a personal course of action to prevent a given human disease;

(2) understand molecular and cellular life processes as evidenced by the ability to:

(a) perform measurements to describe cellular structures and physiological processes;

(b) describe, using words, chemical formulas and equations, and diagrams, the cellular processes of a given plant or animal cell;

(c) explain, using the structure-function relationship of the chloroplast, conservation of energy, and the fundamental nature of light, how solar energy is transformed during photosynthesis into cellular energy in a given plant cell;

(d) explain, using the structure-function relationship of the mitochondria and molecular energy transformations involving ATP, how energy stored in food molecules is released during cellular respiration in a given cell;

(e) qualitatively predict, using structure-function relationships and relationships between organelles and the cellular environment, the effect of a given natural and applied physical and chemical change in the environment of a cell on photosynthesis and cellular respiration;

(f) design experiments to test the properties of structure-function relationships in photosynthesis or cellular respiration;

(g) explain, using the processes of replication, transcription, and translation, how proteins are synthesized in a cell; and

(h) predict the amino acid sequence of a protein from a given codon sequence;

(3) understand molecular reproduction and heredity as evidenced by the ability to:

(a) perform measurements and statistical analyses to describe the results from a given plant and animal breeding experiment;

(b) describe, using words, pictures, and diagrams, and models, the changes in the visibility, arrangement, and number of chromosomes at each given state of mitosis and meiosis;

(c) explain, using the Laws of Segregation and Independent Assortment, why fertilization and the production of sperm and eggs through meiosis is necessary for species variability;

(d) describe, using words, diagrams, and charts, how a given trait is inherited and expressed;

(e) explain and predict qualitatively and quantitatively, using rules of probability and heredity, the genotype and phenotype of the offspring of parents with given genotypic traits to include dominant–recessive traits, incomplete and co–dominant traits, polygenic traits, and sex–linked and sex–influenced traits;

(f) explain, using the Laws of Segregation and Independent Assortment, how the sex is determined in humans;

(g) describe, using words, diagrams, and charts, how a mutation occurs;

(h) explain and predict, using the relationship between genes and their expression, the effect an environmental change will have on the expression of a given genetic trait;

(i) describe, using words, diagrams, and charts, the process of producing recombinant DNA; and

(j) describe, using words, pictures, and diagrams, how genetic technology is used in treatment of human disease and development of agriculture products;

(4) understand diversity and biological evolution as evidenced by the ability to:

(a) describe in words, pictures, and diagrams the range of physical, behavioral, and biochemical adaptations that can occur in response to environmental stresses for a given species;

(b) explain, using the principles of mutation and natural selection, how a specific adaptation of a given species might have developed in response to environmental stresses;

(c) describe, using words, diagrams, charts, and statistical relationships, the range of phenotypes of a given species in a given environment;

(d) explain and predict, using the principles of mutation, recombination, and natural selection, changes in the range of phenotypes of a species when a given change occurs in the environment of the species;

(e) explain, using the principles of mutation, recombination, and natural selection, why certain species are found in the fossil records relatively unchanged while others are not and others are extinct;

(f) explain and predict, using the evolutionary tree, morphological variations between two or more given species; and

(g) explain the variations in morphological characteristics and DNA composition of two or more given species;

(5) understand the interdependence among living things as evidenced by the ability to:

(a) perform measurements and statistical analyses to describe results of a study investigating the relationship between a given common organism and its environment;

(b) perform measurements and statistical analyses to describe the diversity and number of species in a given ecosystem;

(c) describe, using words, pictures, and diagrams, the cycling of a given substance among living and nonliving components of the biosphere;

(d) describe, using words, pictures, diagrams, and simple mathematical relationships, the cycling of matter and the flow of energy both within a given system, and between the system and the biosphere;

(e) explain, using the relationships between biotic and abiotic components of that system, why the population size and diversity of species is different between two different niches, habitats, ecosystems, or biomes;

(f) explain and predict, using population growth dynamics and interspecific and intraspecific interactions, changes in population size of organisms in an ecosystem for a given change in the biotic and abiotic components of the ecosystem; and

(g) design an experiment to investigate relationships within and among species in a simple ecosystem; and

(6) understand behavior of organisms as evidenced by the ability to:

(a) perform measurements and statistical analyses to describe the physical behavior of animals in a given natural and perturbed situation;

(b) describe, using words, pictures, and diagrams, behaviors of a given animal that allow it to interact with organisms of its own and other species and to respond to environmental changes;

(c) explain and predict, in terms of the principles of animal communication and adaptation, the behavioral responses of an animal to a given set of interactions or environmental changes; and

(d) explain behavioral responses of a given animal in terms of natural selection.

C. A teacher of life science must demonstrate an advanced conceptual understanding of life science and the ability to apply its fundamental principles, laws, and concepts by completing a full research experience. The teacher must:

(1) identify various options for a research experience including independent study projects, participation in research with an academic or industry scientist, directed study, internship, or field study;

(2) select an option and complete a research experience that includes conducting a literature search on a problem;

(3) design and carry out an investigation;

(4) identify modes for presenting the research project; and

(5) present the research project in the selected mode.

Subp. 7. **Subject matter standards for teachers of physics.** A candidate for licensure as a teacher of physics in grades 9 through 12 must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. A teacher of physics must demonstrate a conceptual understanding of physics. The teacher must:

(1) use sources of information to solve unfamiliar quantitative problems and communicate the solution in a logical and organized manner as evidenced by the ability to:

(a) describe, in terms of the known and unknown quantities, a given problem in the appropriate pictorial, graphical, or written form;

(b) qualitatively describe, in appropriate physics terms using motion diagrams, vector force diagrams, energy or momentum diagrams, ray diagrams, or field diagrams as necessary, a given problem situation;

(c) mathematically describe, in terms of the relevant numerical, algebraic, and trigonometric quantities and equations, a given problem;

(d) plan, using words, diagrams, and mathematical relationships, a solution for solving a given problem and verify the solution;

(e) implement, using algebra and manipulation and solution of coupled sets of linear equations, quadratic equations, simple differential equations, and simple integrals as necessary, a solution to a given problem; and

(f) evaluate, in terms of unit consistency, reasonableness, and completeness of solution, the solution of a given problem;

(2) use computers to display and analyze experimental and theoretical data as evidenced by the ability to:

(a) graphically describe data using a computer;

(b) design a mathematical model to provide a reasonable fit to a given set of data;

(c) compute and evaluate the statistical significance of mean and standard deviation for a distribution of data;

(3) estimate common physical properties as evidenced by the ability to:

(a) describe numerically, using reasonable physical estimates, the physical properties of common objects; and

(b) compute and evaluate the reasonableness of calculated physical parameters of common objects; and

(4) develop a plan to ensure a safe environment and practices in all physics learning activities.

B. A teacher of physics must demonstrate a knowledge of physics concepts. The teacher must:

(1) understand linear and rotational motion as evidenced by the ability to:

(a) perform measurements and calculations to describe the linear and angular position, velocity, and acceleration of a given object; the forces and torques acting on an object; and the energy, momentum, and angular momentum of a system before and after an interaction;

(b) describe, using words, pictures and diagrams, graphs, vectors, and mathematical relationships, the motion of a given object;

(c) describe, using words, free-body vector diagrams, and mathematical relationships, the forces acting on each object in a given system of interacting objects and explain, using Newton's Second and Third Laws, the relationships between all the forces;

(d) describe, using words, energy diagrams or graphs, and mathematical relationships, the change of energy of a system and any transfer of energy into or out of a given system of interacting objects;

(e) describe, using words, vector diagrams, and mathematical relationships, the change of linear or angular momentum of a given system and any transfer of momentum into or out of the system of interacting objects;

(f) explain and predict qualitatively and quantitatively, in terms of Newton's Laws, the conservation of energy, and the conservation of momentum, the motion of objects in a given system of interacting objects; and

(g) design a strategy for making an object move in a given way;

(2) understand simple harmonic and wave motion as evidenced by the ability to:

(a) perform measurements and calculations to describe the wavelength, amplitude, period, frequency, and energy of a traveling wave or an object in simple harmonic motion;

(b) describe, using words, force diagrams, energy diagrams or graphs, motion graphs, and mathematical relationships, simple or damped harmonic motion or resonance of a given oscillating system;

(c) explain and predict qualitatively and quantitatively, using the equation of motion, changes in motion of an oscillator in a given system when the intrinsic characteristics of the oscillator change, when a given external force is applied to the oscillator, and when the oscillator loses energy to its surroundings;

(d) design, using words, diagrams or graphs, and mathematical relationships, a system which oscillates at a given frequency or exhibits damped oscillations;

(e) describe a traveling or standing wave in a given medium;

(f) explain and predict qualitatively and quantitatively, using the wave equation of motion and the superposition principle, changes in wave motion when a given traveling wave interacts with a given object or boundary;

(g) explain and predict qualitatively and quantitatively, using the wave equation of motion and the superposition principle, changes in wave motion when a given traveling wave interacts with a second wave; and

(h) explain and predict qualitatively and quantitatively, using the wave equation of motion and the superposition principle, changes in the wave when the source and detector are moving relative to each other;

(3) understand electricity and magnetism as evidenced by the ability to:

(a) perform measurements and calculations to describe time varying or constant values of current, voltage, and power in electric circuits and in magnetic fields;

(b) describe, using words, circuit diagrams, graphs, and mathematical relationships, the current, voltage, resistance, capacitance, or inductance of a given system of circuit elements;

(c) explain and predict qualitatively and quantitatively, using the conservation of charge and the conservation of energy, the current through or the voltage across each element in a given circuit when changes are made to the circuit;

(d) design a circuit in which the current varies in a given way;

(e) explain and predict qualitatively and quantitatively, in terms of Newton's laws and the Lorentz Force, the motion of charges in given electric and magnetic fields;

(f) predict qualitatively and quantitatively, using Gauss's law or Ampere's law, the electric field around a given simple geometric distribution of charges and the magnetic field around a given simple geometric system of current-carrying wires;

(g) predict qualitatively, using Lenz's law and Faraday's Law, the induced currents from a given changing magnetic flux;

(h) design, using simple materials, a working electric motor and an air-core electromagnet that produces a field strength; and

(i) explain, in terms of the motion of charges and the electromagnetic nature of light, how electromagnetic radiation is generated in a given situation;

(4) understand physical and geometrical optics as evidenced by the ability to:

(a) perform measurements and calculations to describe light intensity and polarization of a given light source, the location of images formed by a simple mirror and lens system, and the focal length and magnification of a curved mirror or thin lens;

(b) describe, using words, ray diagrams, graphs, and mathematical relationships, the reflection, refraction, transmission, and absorption of light when it encounters a given macroscopic object, a plane or curved mirror, a boundary between mediums of different indices of refraction, a linear polarizer, a prism, and thin concave and convex lenses;

(c) explain and predict qualitatively and quantitatively, in terms of ray diagrams and the laws of reflection and refraction of light, the location and magnification of a real or virtual image for a given system of mirrors or lenses;

(d) design a system of lenses and mirrors to produce a real or virtual image of a given magnification;

(e) describe, using words, diagrams, and graphs, the interaction of monochromatic light with a given single or pair of parallel slits and with thin films; and

(f) explain and predict qualitatively and quantitatively, using the behavior of waves and the principle of superposition, the change in the resulting light pattern with given changes in slit width, separation, and the wavelength of the incident light on a system of slits;

(5) understand the kinetic-molecular model of matter and thermodynamics as evidenced by the ability to:

(a) perform measurements and calculations to describe the mass, volume, density, temperature, and heat capacity of a solid, liquid, or gas at constant pressure and the pressure in a gas;

(b) explain qualitatively, using the kinetic-molecular model of matter, a common physical change;

(c) describe, using words, graphs, and mathematical relationships, changes in pressure, volume, or temperature of an ideal gas;

(d) predict, using the First Law of Thermodynamics, the final temperature of a given thermally isolated system of interacting objects and materials;

(e) explain and predict qualitatively and quantitatively, using the First Law of Thermodynamics, the transfer of heat into or out of a given system;

(f) explain, using the First Law of Thermodynamics, the changes of pressure, temperature, and volume for a monatomic ideal gas operating in a Carnot cycle between given states, and describe quantitatively, using words, graphs, and mathematical relationships, the thermal efficiency of the system; and

(g) explain, in terms of the second law of thermodynamics, why energy flows from hot to cold objects; and

(6) understand contemporary physics as evidenced by the ability to:

(a) perform measurements and calculations to detect nuclear radiation in the environment, and determine wavelengths and energy of the emission spectrum of a given gas;

(b) describe, using words, diagrams, and mathematical relationships, the time dilation, length contraction, and momentum and energy of an object of given velocity;

(c) describe, using words, diagrams, and tables, the basic atomic and subatomic constituents of matter;

(d) explain qualitatively, in terms of the standard model, the observed interaction between atomic or subatomic particles in a simple situation;

(e) explain qualitatively, using the quantum nature of light and matter, and the conservation of energy and momentum, the observed interaction between photons and matter in a given situation;

(f) explain, using conservation principles, the observed changes in the matter and energy of a given nuclear process;

(g) predict, using the Heisenberg Uncertainty Principle, the lower limit of size, momentum, energy, or time that could be expected in a given atomic or subatomic measurement or situation; and

(h) describe, in terms of the energy bands and levels in the material, the electrical conductivity of a given conductor, insulator, or semiconductor.

C. A teacher of physics must demonstrate an advanced conceptual understanding of physics and the ability to apply its fundamental principles, laws, and concepts by completing a full research experience. The teacher must:

(1) identify various options for a research experience including independent study projects, participation in research with an academic or industry scientist, directed study, internship, or field study;

(2) select an option and complete a research experience that includes conducting a literature search on a problem;

(3) design and carry out an investigation;

(4) identify modes for presenting the research project; and

(5) present the research project in the selected mode.

Subp. 8. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 9. **Effective date.** The requirements of this part for licensure as a teacher of science shall be effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928; 26 SR 700*

8710.4800 TEACHERS OF SOCIAL STUDIES.

Subpart 1. **Scope of practice.** A teacher of social studies is authorized to provide to students in grades 5 through 12 instruction that is designed to provide an understanding of the following social studies concepts:

A. culture and cultural diversity;

B. the ways human beings view themselves in and over time;

C. people, places, and environments;

D. individual development and identity;

E. interactions among individuals, groups, and institutions;

F. how people create and change structures of power, authority, and governance;

G. how people organize for production, distribution, and consumption of goods and services;

- H. relationships among science, technology, and society;
- I. global connections and interdependence; and
- J. ideals, principles, and practices of citizenship in a democratic republic.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach social studies to students in grades 5 through 12 shall:

- A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;
- B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and
- C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of social studies in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of social studies must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to K.

A. A teacher of social studies understands how human beings create, learn, and adapt culture. The teacher must understand:

- (1) ways in which groups, societies, and cultures address human needs and concerns;
- (2) how data and experiences may be interpreted by people from diverse cultural perspectives and frames of reference;
- (3) culture as an integrated whole, including the functions and interactions of language, literature, the arts, traditions, beliefs and values, and behavior patterns;
- (4) societal patterns for preserving and transmitting culture while adapting to environmental or social change;
- (5) benefits of cultural diversity and cohesion, within and across groups;
- (6) patterns of behavior reflecting values and attitudes that contribute or pose obstacles to cross-cultural understanding;
- (7) the causes and effects of stereotyping on American Indians within their society and on society as a whole;
- (8) specific cultural responses to persistent human issues; and
- (9) ideas, theories, and modes of inquiry drawn from anthropology and sociology in the examination of persistent issues and social problems.

B. A teacher of social studies understands historical roots based on what things were like in the past and how things change and develop over time. The teacher must understand:

- (1) that historical knowledge and the concept of time are socially influenced constructions that lead historians to be selective in the questions they seek to answer and in the evidence they use;
- (2) key concepts, including time, chronology, causality, change, conflict, and complexity to explain, analyze, and show connections among patterns of historical change and continuity;
- (3) historical periods and patterns of change within and across cultures;
- (4) the significance of American Indian oral tradition in the perpetuation of culture and history;
- (5) processes of critical historical inquiry to reconstruct and reinterpret the past;
- (6) multiple historical and contemporary viewpoints with viewpoints within and across cultures; and
- (7) ideas, theories, and modes of historical inquiry to analyze historical and contemporary developments, and to inform and evaluate actions concerning public policy issues.

C. A teacher of social studies understands the world within and beyond personal locations. The teacher must understand:

world;

(2) how to create, interpret, use, and synthesize information from various representations of the earth;

(3) appropriate resources, data sources, and geographic tools to generate and manipulate charts, graphs, and maps and to interpret information from resources including atlases, databases, and grid systems;

(4) how to determine distance, scale, area, density, and distinguish spatial distribution patterns;

(5) the relationships among various regional and global patterns of geographic phenomena;

(6) physical earth system changes to explain geographic phenomena;

(7) how people create places that reflect culture, human needs, government policy, and current values and ideals as they design and build specialized buildings, neighborhoods, shopping centers, urban centers, industrial parks, and the like;

(8) physical and cultural patterns and their interactions;

(9) how historical events have been influenced by, and have influenced, physical and human geographic factors in local, regional, national, and global settings;

(10) social and economic effects of environmental changes and crises resulting from phenomena; and

(11) policies for the use of land and other resources in communities and regions.

D. A teacher of social studies understands that personal identity is shaped by an individual's culture, by groups, and by institutional influences. The teacher must understand:

(1) personal connections to time, place, and social and cultural systems;

(2) influences of various historical and contemporary cultures on an individual's daily life;

(3) the ways family, religion, gender, ethnicity, nationality, socioeconomic status, and other group and cultural influences contribute to the development of a sense of self;

(4) the vital role the process of achieving harmony and balance and the American Indian value system play in American Indian philosophy and in the daily lives of American Indians;

(5) concepts, methods, and theories about the study of human growth and development;

(6) how ethnicity, nationality, and culture interact to influence specific situations or events;

(7) the role of perceptions, attitudes, values, and beliefs in the development of personal identity;

(8) the impact of stereotyping, conformity, acts of altruism, and other behaviors on individuals and groups;

(9) how to work independently and cooperatively within groups and institutions to accomplish goals; and

(10) factors that contribute to and damage mental health and issues that relate to mental health and behavioral disorders in contemporary society.

E. A teacher of social studies understands how institutions are formed, what controls and influences them, how institutions control and influence individuals and culture, and how institutions can be maintained or changed. The teacher must understand:

(1) how concepts, including role, status, and social class, impact the connections and interactions of individuals, groups, and institutions in society;

(2) group and institutional influences on people, events, and elements of culture in both historical and contemporary settings;

(3) the various forms institutions take and how they develop and change over time;

(4) how Minnesota-based Anishinabe reservations and Dakota communities are influenced by history, geography, and contemporary issues;

(5) that expressions of individuality and efforts to promote social conformity by groups or institutions can result in tensions;

(6) belief systems in contemporary and historical movement;

(7) how institutions can further both continuity and change;

(8) how groups and institutions meet individual needs and promote the common good in contemporary and historical settings; and

(9) the application of ideas and modes of inquiry drawn from behavioral science and social theory in the examination of persistent issues and social problems.

F. A teacher of social studies understands the historical development of structures of power, authority, and governance and their evolving functions in contemporary United States society and other parts of the world. The teacher must understand:

(1) persistent issues involving the rights, roles, and status of the individual in relation to the general welfare;

(2) the purpose of government and how its powers are acquired, used, and justified;

(3) ideas and mechanisms to meet needs and wants of citizens, regulate territory, manage conflict, establish order and security, and balance competing conceptions of a just society;

(4) ways nations and organizations respond to conflicts between forces of unity and forces of diversity;

(5) American Indian treaties and how they function, the meaning of tribal sovereignty, and the concept of sovereignty as related to tribal government;

(6) the impact of ever changing United States policies on American Indians;

(7) existing differing political systems and the role representative political leaders from selected historical and contemporary settings have had in shaping these systems;

(8) conditions, actions, and motivations that contribute to conflict and cooperation within and among nations;

(9) the role of technology in communications, transportation, information processing, development, or other areas as it contributes to or helps resolve conflicts;

(10) how to apply ideas, theories, and modes of inquiry drawn from political science to the examination of persistent issues and social problems;

(11) the extent to which governments achieve their stated ideals and policies at home and abroad; and

(12) how public policy is formed and expressed.

G. A teacher of social studies understands how people organize for the production, distribution, and consumption of goods and services. The teacher must understand:

(1) how the scarcity of productive human, capital, technological, and natural resources requires the development of economic systems to make decisions about how goods and services are to be produced and distributed;

(2) the role that supply and demand, prices, incentives, and profits play in determining what is produced and distributed in a competitive market system;

(3) the costs and benefits to society of allocating goods and services through private and public sectors;

(4) relationships among the various economic institutions that comprise economic systems;

(5) the role of specialization and exchange in economic processes;

(6) how values and beliefs influence economic decisions in different societies;

(7) basic economic systems according to how rules and procedures deal with demand, supply, prices, the role of government, banks, labor and labor unions, savings and investments, and capital;

(8) how to apply economic concepts and reasoning in evaluating historical and contemporary social developments and issues;

(9) differences between the domestic and global economic systems and how the two interact; and

(10) the relationship of production, distribution, and consumption in establishing socially desirable outcomes for resolving public issues.

H. A teacher of social studies understands the relationships among science, technology, and society. The teacher must understand:

(1) both current and historical examples of the interaction and interdependence of science, technology, and society in a variety of cultural settings;

(2) how science and technology have transformed the physical world and human society to include its impact on time, space, place, and the interactions between humans and their environment;

(3) how science and technology influence the core values, beliefs, and attitudes of society, and how core values, beliefs, and attitudes of society shape scientific and technological change;

(4) how to evaluate various policies that have been proposed as ways of dealing with social changes resulting from new technologies, for example, genetically engineered plants and animals;

(5) varied perspectives about human societies and the physical world using scientific knowledge, ethical standards, and technologies from diverse world cultures; and

(6) strategies and policies for influencing public discussions associated with technology–society issues, such as the greenhouse effect.

I. A teacher of social studies understands the relationship of global connections among world societies to global interdependence. The teacher must understand:

(1) how language, art, music, belief systems, and other cultural elements can facilitate global understanding or cause misunderstanding;

(2) conditions and motivations that contribute to conflict, cooperation, and interdependence among groups, societies, and nations;

(3) the effects of changing technologies on the global community;

(4) causes, consequences, and possible solutions to persistent, contemporary, and emerging global issues;

(5) relationships and tensions between national sovereignty and global interests;

(6) the role of international and multinational organizations in the global arena;

(7) how individual behaviors and decisions connect with global systems; and

(8) concerns, issues, and conflicts related to universal human rights.

J. A teacher of social studies understands that civic ideals and practices of citizenship is critical to full participation in society and is the central purpose of the social studies. The teacher must understand:

(1) the origins and the continuing influence of key ideals of the democratic republican form of government;

(2) sources and examples of citizens' rights and responsibilities;

(3) how to locate, access, analyze, organize, synthesize, evaluate, and apply information about selected public issues that are representative of multiple points of view;

(4) forms of civic discussion and participation that are consistent with the ideals of citizens in a democratic republic;

(5) the influence of various forms of citizen action on public policy;

(6) how to analyze a variety of public policies and issues from the perspective of formal and informal political actors;

(7) how to evaluate the effectiveness of public opinion in influencing and shaping public policy development and decision-making;

(8) the degree to which public policies and citizen behaviors reflect or foster the stated ideals of a democratic republican form of government; and

(9) ways for strengthening the common good through citizen empowerment and action.

K. A teacher of social studies must demonstrate an understanding of the teaching of social studies that integrates understanding of the social studies disciplines with the understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of social studies to preadolescent and adolescent students shall:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;

(2) understand and apply the research base for and the best practices of middle and high school education;

(3) develop curriculum goals and purposes based on the central concepts of each social studies discipline and know how to apply instructional strategies and materials for achieving student understanding of these disciplines;

(4) understand the role and alignment of district, school, and department mission and goals in program planning;

(5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(8) understand the impact of reading ability on student achievement in social studies, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read social studies content materials more effectively; and

(9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** The requirements in this part for licensure as a teacher of social studies are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4825 TEACHER COORDINATORS OF WORK-BASED LEARNING.

Subpart 1. **Scope of practice.** A teacher coordinator of work-based learning is authorized to provide and coordinate instruction that enables students to learn through work and to consult and collaborate with families, other teachers, and business, industry, labor, and community representatives in designing, implementing, and evaluating student learning through work. For the purposes of this part, "work-based learning" means learning through paid and unpaid work-based experiences where the worksite is the educational setting for one or more hours of the school day or week for one or more quarters or semesters of the school year.

Subp. 2. **License requirements.** A candidate for licensure as a teacher coordinator of work-based learning shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. hold or apply and qualify for another Minnesota license valid for teaching in grades 9 through 12; and

C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teacher coordinators of work-based learning in subpart 3.

Subp. 3. Subject matter standard. A candidate for licensure as a teacher coordinator of work-based learning must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to D. The knowledge and skills required in this subpart shall be acquired through college coursework and experiences including employment, internship, mentorship, job shadowing, or apprenticeships.

A. A teacher coordinator understands the central concepts, tools of inquiry, and history and context of work-based learning. The teacher must understand:

(1) contemporary issues pertaining to creating learning environments for students at work;

(2) models and legislation that provide the basis for connecting students' school experiences with the workplace or further education and for learning through work; and

(3) the role of work-based learning in providing students kindergarten through grade 12 with opportunities to learn about work and how to work and, when appropriate, to learn through work.

B. A teacher coordinator understands how to design and implement school-based instruction that focuses on enabling students to learn about work, how to acquire skills, and gain a perspective and direction on a career pathway. The teacher must understand:

(1) basic workplace readiness and employability skills and employment trends;

(2) the role and process of a human resources department in the organizational structure;

(3) the career decision-making process, including self-awareness, career research, workplace expectations, career development strategies, school-to-work transition, and life-long learning;

(4) how to research a career and access career information;

(5) how to connect students' school-based experiences with everyday life, the workplace, and future educational opportunities;

(6) unique student needs and how to adapt and modify curriculum and instruction and work collaboratively with other teachers to accommodate the unique needs;

(7) strategies for teaching students self-advocacy and functional life skills relevant to independence, social skills, and community and personal living;

(8) strategies for teaching students to learn about work, how to acquire skills, and gain a perspective on a career;

(9) role and purpose of intra-curricular activities including their application as a vehicle for teaching group process, cooperation, collaboration, service, and leadership;

(10) how to market the work-based learning program including student and employer recruitment and retention techniques; and

(11) how to implement systematic procedures for continuous program improvement.

C. A teacher coordinator understands how to establish and monitor work-based instruction that focuses on enabling students to learn about work, how to acquire skills, and gain a perspective and direction on a career pathway. The teacher must understand:

(1) criteria for determining when work is a learning experience;

(2) various placement options and selection of educational options based on the needs, abilities, and interests of the student;

(3) laws pertaining to employment including the Americans with Disabilities Act, state and federal labor laws including wage and hour laws and volunteerism, and data privacy laws;

(4) how to develop and implement training agreements that are consistent with school guidelines and expectations for student participation in the program;

(5) how to match the individual needs of the student to the work-based learning site;

- (6) how to work collaboratively in designing, implementing, and evaluating a student's individual training plan;
- (7) job task analysis and how to use it to appropriately sequence instruction;
- (8) how to teach mentors and students in the work-based learning setting;
- (9) how to monitor, summarize, and report the acquisition of the work-based learning outcomes identified in the training plan;
- (10) performance assessment and how to apply it to assessing student on-the-job learning; and
- (11) how to identify, develop, and maintain employment sites.

D. A teacher coordinator communicates and interacts with students, their families, other teachers, and representatives of business, industry, labor, and the community to support student learning through work. The teacher must understand:

- (1) how to actively engage parents, and representatives of business, industry, labor, and community organizations as active partners in creating educational opportunities;
- (2) how to assist students and their parents in making decisions about students' academic and occupational choices;
- (3) effective communication and problem-solving skills; and
- (4) how to access and evaluate information from consumer and professional organizations, publications, and journals relevant to teaching and learning through work.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to rules of the Board of Teaching governing continuing licenses.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher coordinator of work-based learning are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4850 TEACHERS OF TECHNOLOGY.

Subpart 1. **Scope of practice.** A teacher of technology is authorized to provide to students in grades 5 through 12 instruction that is designed to provide an understanding of the continually developing technological world using as its context the areas of transportation, construction, power and energy, communications, manufacturing, biotechnology, and other contemporary and emerging technologies to include orienting students to careers in these and other technological areas. The instruction focuses on teaching students how to extend human capability with products or processes using the technological method through providing them with experiences for creating a system that integrates equipment, machines, tools, software, hardware, and other technological devices to complete a task; how to adapt to technological changes in all aspects of their lives including home, leisure, and work; and how to assess the impact of technology from an environmental, social, economic, cultural, historical, and ethical perspective.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach technology to students in grades 5 through 12 shall:

- A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;
- B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and
- C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of technology in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of technology must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. A teacher of technology understands central concepts common to technology content. The teacher must understand:

- (1) the technological method including defining the problem, researching, identifying possible solutions, analysis, implementation, and evaluation and how to apply it;

(2) how to identify, classify, and organize content within the following technological bodies of knowledge:

- (a) communications technology including:
 - i. graphic and electronic forms of communications;
 - ii. the processes of designing, drafting, photographing, printing, technical writing, and computer-based communication; and
 - iii. communication systems such as data processing, programming, recording and playing, and transmitting and receiving information;
- (b) construction technology including:
 - i. the fields of residential, commercial, and civil construction; and
 - ii. construction systems, including wood, concrete, steel, composites, electrical, mechanical, and site development;
- (c) manufacturing technology including:
 - i. custom, intermittent, and continuous types of manufacturing;
 - ii. manufacturing processes relating to materials used and the processes of forming, separating, combining, measuring, and finishing; and
 - iii. manufacturing systems such as research and development, automation, material handling, and quality control;
- (d) energy and power technology including:
 - i. radiant, chemical, thermal, mechanical, electrical, and nuclear forms of energy;
 - ii. methods of extracting, conserving, measuring, controlling, converting, transmitting, and storing energy;
 - iii. fossil fuel, solar, nuclear, electrical, fluid, and renewable energy resources; and
 - iv. converting, measuring, altering and controlling mechanical power systems;
- (e) transportation technology including:
 - i. terrestrial, marine, atmospheric, and space modes of transportation; and
 - ii. propulsion, suspension, guidance, control, support, and structural systems of transportation;
- (f) biotechnology including:
 - i. plant, animal, and machine applications of biotechnology and biotechnology processes for propagating, growing, maintaining, harvesting, adapting, treating, and converting; and
 - ii. human factors, engineering, health care, cultivation of plants and animals, fuel and chemical production, waste management and treatment, and biomaterials; and
- (g) management of technologically related resources including the resources of time, capital, energy, tools, materials, information, and people needed to use biotechnology, communication, construction, manufacturing, energy and power, and transportation technology;

(3) how technological elements, components, and devices function in micro and macro systems including input, process, output, and feedback, and why systems interact or behave as they do;

(4) historical, sociological, ethical, environmental, and economic impacts of technology; and

(5) current and emerging technological careers, the importance of possessing lifelong learning values, workplace skills, and an understanding of the developmental career process as gained through employment, internship, mentorship, job shadowing, or apprenticeship.

B. A teacher of technology understands central concepts common to the teaching and learning of technology education content. The teacher must understand:

- (1) the definition, philosophy, and rationale of technology education;
- (2) technological issues and problems for teaching decision-making, critical thinking, and problem-solving skills;
- (3) how to use tools, equipment, materials, and processes in technology education learning environments safely; and
- (4) laboratory oriented instructional skills necessary for modeling technological expertise including craftsmanship, visualization skills, spatial relationships, mechanical aptitude, and design principles.

C. A teacher of technology must demonstrate an understanding of the teaching of technology that integrates understanding of technology with the understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of technology to preadolescent and adolescent students must:

- (1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of preadolescents and adolescents;
- (2) understand and apply the research base for and the best practices of middle and high school education;
- (3) develop curriculum goals and purposes based on the central concepts of technology and know how to apply instructional strategies and materials for achieving student understanding of technology;
- (4) understand the role and alignment of district, school, and department mission and goals in program planning;
- (5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;
- (6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;
- (7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;
- (8) understand the impact of reading ability on student achievement in technology, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read technology content materials more effectively; and
- (9) apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with middle level and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of technology are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4900 TEACHERS OF VISUAL ARTS.

Subpart 1. **Scope of practice.** A teacher of visual arts is authorized to provide to students in kindergarten through grade 12 instruction that is designed to develop an understanding of the creative works and processes of producing visual art forms.

Subp. 2. **Licensure requirements.** A candidate for licensure to teach visual arts to students in kindergarten through grade 12 shall:

- A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;
- B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000; and
- C. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of visual arts in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of visual arts must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to F.

A. A teacher of visual arts demonstrates an understanding of and how to teach aesthetic principles and habits and knows processes for evaluating them. The teacher must:

- (1) know how to make careful and clear distinctions to support factual claims from value and meaning claims;
- (2) know that learning about art involves questioning, making conclusions, and forming concepts of the nature of art to distinguish works of art from other objects;
- (3) understand that philosophers of art have reached quite different conclusions about what art is; and
- (4) know questioning strategies that lead to understanding the nature, relationship, and value of art.

B. A teacher of visual arts understands and evaluates art theory and art studio practice. The teacher must:

- (1) understand and apply formal elements and principles of design;
- (2) understand and apply theories of color, spatial relationships, and perception;
- (3) know ways for developing ideas for artistic metaphors derived from exploration of the physical world, the needs of other people, psychological interests, and reflecting on sensory and formal qualities;
- (4) be able to make technical and aesthetic decisions and modify ideas as work proceeds;
- (5) develop skills in manipulating two-dimensional and three-dimensional art materials and explore a variety of methods and effects;
- (6) know the various standards to consider in determining whether a work is finished or successful;
- (7) be able to apply various artistic standards in judging personal works of art;
- (8) know how to alternate between invention, the role of artist, and selection, the role of critic;
- (9) understand the sustained personal effort and the pleasure and satisfaction of producing a work of art; and
- (10) demonstrate competence in a minimum of one medium or process in each of the following six studio art areas, with an emphasis in at least two areas:
 - (a) drawing, including experiences in rendering, gesture, and contour;
 - (b) painting, for example, experiences with water color, tempera, oil, acrylic, or mixed media;
 - (c) sculpture, for example, experiences with wood, metal, fibers, paper mache, molding, casting, or found objects; ceramics, for example, experiences with glazing, hand building, throwing, and firing; or architecture, for example, experiences with model making, rendering, and computer imaging;
 - (d) graphic arts; photography, for example, experiences with still, black and white, film processing, and digital imaging; or printmaking, for example, experiences with silk screening, monoprinting, relief printing, stenciling, serigraphy, engraving, or intaglio;
 - (e) fiber arts, for example, experiences with weaving, papermaking, quilting, or stitchery; and
 - (f) computer graphics, video and animation, performance art, or conceptual art.

C. A teacher of visual arts understands that works of art are affected by where and when they were produced. The teacher must:

- (1) understand the effect of culture and temporal contexts on the appearance of artworks and the point of view of persons of other cultures or other times in interpreting the art;

(2) analyze and interpret contextual information about traditional art forms within various cultures;

(3) understand the chronological development of art from prehistoric to present; and

(4) use art historical research processes.

D. A visual arts teacher understands, produces, and evaluates critical interpretations of works of art. The teacher must:

(1) understand that art critics base their judgment of artworks on specific standards, interpret how artworks function in society, and select appropriate standards for judging artworks;

(2) know how to apply a variety of critical perspectives in interpreting works by investigating significant meaning and expressive content of the works, to synthesize description and analysis into an interpretive judgment; and

(3) know how to use criticism models to compare and contrast qualities within artwork using the sensory, formal, technical, and expressive scanning model and the description, analysis, interpretation, and judgment strategies model.

E. A teacher of visual arts understands central concepts common to the teaching and learning of art education content. The teacher must understand:

(1) philosophical influences within art education;

(2) the goals and purposes of art education, making principled decisions about practice;

(3) the historical foundations of art education and training in visual art;

(4) art education research to enhance teaching effectiveness;

(5) the importance of the arts to the individual, school, community, and society to include careers, hobbies, and leisure time activities;

(6) how to budget an art program and manage art classroom procedures;

(7) how to conduct meaningful and appropriate assessments and evaluations of programs; and

(8) safe use of tools, equipment, materials, and processes in visual art education learning environments.

F. A teacher of visual arts must demonstrate an understanding of the teaching of visual arts that integrates understanding of visual art with an understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of visual arts to children, preadolescents, and adolescents must:

(1) understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;

(2) understand and apply the research base for and the best practices of kindergarten and primary, intermediate, and middle and high school education;

(3) develop curriculum goals and purposes based on the central concepts of visual arts and know how to apply instructional strategies and materials for achieving student understanding of this discipline;

(4) understand the role and alignment of district, school, and department mission and goals in program planning;

(5) understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

(6) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(7) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(8) understand the impact of reading ability on student achievement in visual arts, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read art content materials more effectively; and

(9) apply the standards of effective practice in teaching students in kindergarten through grade 12 through a variety of early and ongoing clinical experiences with kindergarten and primary, intermediate, middle level, and high school students within a range of educational programming models.

Subp. 4. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of visual arts are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.4950 TEACHERS OF WORLD LANGUAGES AND CULTURES.

Subpart 1. **Scope of practice.** A teacher of world languages and cultures is authorized to provide to students instruction that is designed to develop language fluency and cultural understanding in a language other than spoken English. If teaching in an immersion setting where the entire academic curriculum is taught in a language other than English, the teacher shall hold licensure with the scope of practice appropriate to the subjects to be taught. The specific language or languages which the teacher is qualified to teach must be clearly indicated on the license.

Subp. 2. Licensure requirements for teachers of world languages and cultures.

A. A candidate for licensure to teach world languages and cultures to students in kindergarten through grade 8 shall:

(1) hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

(2) hold or apply and qualify for a Minnesota elementary education classroom teaching license; and

(3) show verification of completing a Board of Teaching approved preparation program leading to the licensure of teachers of world languages and cultures in subpart 3, 4, or 5.

B. A candidate for licensure to teach world languages and cultures to students in kindergarten through grade 12 shall:

(1) hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

(2) demonstrate the standards for effective practice for licensing of beginning teachers in part 8700.2000; and

(3) show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of world languages and cultures in subparts 3 and 6, 4 and 6, or 5 and 6.

Subp. 3. Subject matter standard for teachers of modern languages and cultures.

A candidate for licensure as a teacher of modern languages and cultures must complete a preparation program under subpart 2, item A or B, subitem (3), that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. All teachers of modern languages and cultures must:

(1) understand language as a system;

(2) understand first and second language acquisition theory and how this informs practice;

(3) demonstrate intermediate–high level speaking proficiency as defined in the ACTFL Proficiency Guidelines established by the American Council on the Teaching of Foreign Languages;

(4) comprehend, interpret, and evaluate information received in the target language through reading and listening at the level that results from demonstrating the speaking proficiency; and

(5) use familiar topics to write narratives and descriptions of a factual nature or routine correspondence consisting of several paragraphs at a level understandable to a native speaker of the target language.

B. A teacher who is a native speaker of the modern language to be taught must:

- (1) demonstrate advanced level speaking proficiency in English and the target language as defined in the ACTFL Proficiency Guidelines;
- (2) comprehend, interpret, and evaluate information received in the target language and in English through reading and listening at the level that results from demonstrating the speaking proficiency; and
- (3) use familiar topics to write in English and the native language narratives and descriptions of a factual nature or routine correspondence consisting of several paragraphs to a level understandable to a native.

C. A teacher of modern languages and cultures must:

- (1) be aware of areas of the world where the target language is spoken and know that life in all these areas may vary widely;
- (2) understand the target culture from a variety of perspectives, including historical, geographical, political, and artistic and contemporary viewpoints;
- (3) be familiar with culture and literature of children and adolescents in both the United States and target cultures;
- (4) understand the history of institutions within the cultures sufficiently for comprehending why current conditions exist;
- (5) have a sociolinguistic understanding sufficient for accurately communicating the interrelationships of the language and culture;
- (6) understand that both content and process are important and that cultural knowledge and understanding are interdisciplinary;
- (7) understand that culture is neither monolithic nor static and that developing insights into the variability of cultural phenomena is a lifelong process;
- (8) know that every cultural phenomenon is unique and is affected by age, geographic region, sex, class, and other factors and that multiple perspectives, value systems, and modes of decision-making and behaviors exist;
- (9) know about cultural stereotyping and how to address it as a result of developing skills in processing information which include observing, comparing, and inquiring about cultural phenomena; analyzing and hypothesizing about the phenomena; and synthesizing and determining their generalizability;
- (10) compare and contrast cultures of people who speak another language with the teacher's own culture; and
- (11) have opportunities for first-hand experiences with the target cultures, whether in the United States or abroad, and relate those experiences to the classroom setting.

Subp. 4. **Subject matter standard for teachers of classical languages and cultures/Greek and Latin.** A candidate for licensure as a teacher of classical languages and cultures must complete a preparation program under subpart 2, item A or B, subitem (3), that must include the candidate's demonstration of the knowledge and skills in items A and B.

A. A teacher of classical languages and cultures must:

- (1) understand language as a system;
- (2) understand first and second language acquisition theory and how this informs practice;
- (3) demonstrate competencies in four modalities of reading, speaking, listening, and writing:
 - (a) the teacher must:
 - i. read with understanding passages of prose or poetry of the most important Latin and Greek authors, for example, Caesar, Cicero, Vergil, Ovid, Horace, Livy, Plato, Homer, and dramatists;
 - ii. explain grammatical structures of the sentences and analyze word forms, including case use, mood, and tense; and
 - iii. infer meanings of unfamiliar words from cognates, derivatives, and context;
 - (b) the teacher must:

- i. pronounce Latin and Greek correctly;
- ii. orate prose with expression and correct inflection;
- iii. orate poetry according to metrical principles;
- iv. greet students, give simple commands, and lead oral exercises;

and

- v. orally formulate Latin and Greek questions based on a reading

passage;

- (c) the teacher must understand main ideas of a connected oral reading;

and

- (d) the teacher must:

- i. accurately construct grammatical Latin and Greek from a moderately complex English original; and

- ii. transform sentences from one grammatical structure to another;

- (4) understand Latin's relation to English and other modern languages; identify Latin- and Greek-based English words, understand their etymology, and provide cognates; and identify Latin and Greek terminology commonly used in science, law, medicine, and Latin abbreviations, terms, phrases, and mottos commonly used in English; and

- (5) understand the value of extra activities promoting cultural interest.

B. A teacher of classical languages and cultures must:

- (1) be aware of areas of the world where the language was spoken and know that life in these areas varied widely;

- (2) have a sociolinguistic understanding sufficient for accurately communicating the interrelationships of the language and culture;

- (3) understand that both content and process are important and that cultural knowledge and understanding are interdisciplinary;

- (4) understand that culture is neither monolithic nor static and that developing insights into the variability of cultural phenomena is a lifelong process;

- (5) know that every cultural phenomenon is unique and is affected by age, geographic region, sex, class, and other factors and that multiple perspectives, value systems, and modes of decision-making and behaviors exist;

- (6) know about cultural stereotyping and how to address it as a result of developing skills in processing information, including observing, comparing, and inquiring about cultural phenomena; analyzing and hypothesizing about the phenomena; and synthesizing and determining generalizability of the phenomena;

- (7) compare and contrast cultures of people who speak another language with the teacher's own culture; and

- (8) have opportunities for on-site experiences with chronologically distant cultures and relate those experiences.

Subp. 5. Subject matter standard for teachers of American sign language and deaf culture. A candidate for licensure as a teacher of American sign language and deaf culture must complete a preparation program under subpart 2, item A or B, subitem (3), that must include the candidate's demonstration of the knowledge and skills in items A to C.

A. A teacher of American sign language and deaf culture must:

- (1) understand language as a system;

- (2) understand first and second language acquisition theory and how this informs practice;

- (3) demonstrate intermediate-plus level of expressive language proficiency on the Signed Communication Proficiency Interview established by the National Technical Institute for the Deaf;

- (4) demonstrate receptive language proficiency in American sign language through comprehending, explaining, and evaluating information received from an individual who signs at the intermediate high level as defined by the Signed Communication Proficiency Interview Guidelines established by the National Technical Institute for the Deaf; and

(5) use familiar topics to narrate and describe factual information or routine communication at a level understandable to a native American sign language user.

B. A teacher whose first language is American sign language must:

(1) comprehend and evaluate information received in English; and

(2) use familiar topics to write in English narratives and descriptions of a factual nature or routine correspondence consisting of several paragraphs to a level understandable to a person whose first language is American sign language.

C. A teacher of American sign language and deaf culture must:

(1) know where American sign language is used;

(2) understand the deaf culture from a variety of perspectives, including historical, geographical, political, and contemporary viewpoints;

(3) be familiar with similarities and differences between deaf and hearing culture in the United States;

(4) understand the history, customs, and practices of deaf culture sufficiently to comprehend why current conditions exist;

(5) have a sociolinguistic understanding sufficient for accurately communicating the interrelationships of the language and culture;

(6) understand that both content and process are important and that cultural knowledge and understanding are interdisciplinary;

(7) understand that culture constantly grows and that developing insights into culture is a lifelong process;

(8) know that every cultural phenomenon is unique and is affected by age, geographic region, sex, class, and other factors and that multiple perspectives, value systems, and modes of decision-making and behaviors exist;

(9) know about cultural stereotyping and how to address it as a result of developing skills in processing information that include observing, comparing, and inquiring about cultural phenomena; analyzing and hypothesizing about the phenomena; and synthesizing and determining generalizability of the phenomena;

(10) compare and contrast cultures of people who use languages other than spoken English with the teacher's own culture; and

(11) have opportunities for first-hand experiences in deaf culture and relate to those experiences.

Subp. 6. Teaching and learning. A candidate for licensure as a teacher of world languages and cultures must complete a preparation program under subpart 2, item B, subitem (3), that must include the candidate's demonstration of an understanding of the teaching of world languages and cultures that integrates understanding of the world language and culture with an understanding of pedagogy, students, learning, classroom management, and professional development. A teacher of world languages and cultures to children, preadolescents, and adolescents in kindergarten through grade 12 shall:

A. understand and apply educational principles relevant to the physical, social, emotional, moral, and cognitive development of children, preadolescents, and adolescents;

B. understand and apply the research base for and the best practices of kindergarten and primary, intermediate, and middle and high school education;

C. develop curriculum goals and purposes based on the central concepts of language and culture and know how to apply instructional strategies and materials for achieving student understanding of the language and culture;

D. understand the role and alignment of district, school, and department mission and goals in program planning;

E. understand the need for and how to connect students' schooling experiences with everyday life, the workplace, and further educational opportunities;

F. know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

G. understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

H. understand the impact of reading ability on student achievement in second language studies, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read world language content more effectively; and

I. apply the standards of effective practice in teaching students through a variety of early and ongoing clinical experiences with kindergarten, primary, or intermediate; and middle level and high school students within a range of educational programming models.

Subp. 7. **Continuing license.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Subp. 8. Incorporations by reference.

A. For the purposes of this part, the ACTFL Proficiency Guidelines published in 1986 by the American Council on the Teaching of Foreign Languages, 6 Executive Plaza, Yonkers, NY 10701-6801, and subsequent editions are incorporated by reference. The guidelines are not subject to frequent change and are available from the State Law Library.

B. For the purposes of this part, the Signed Communication Proficiency Interview Guidelines published in August 1994 by the National Technical Institute for the Deaf, 52 Lomb Memorial Drive, Rochester, NY 14623-5604, and subsequent editions are incorporated by reference. The guidelines are not subject to frequent change and are available from the State Law Library.

Subp. 9. **Effective date.** Requirements in this part for licensure as a teacher of world languages and cultures are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.5000 CORE SKILLS FOR TEACHERS OF SPECIAL EDUCATION.

Subpart 1. **Licensure requirements.** A candidate recommended for licensure in special education shall complete the core skill area licensure requirements in subpart 2 as part of each special education teacher preparation program approved under part 8700.7600 by the Board of Teaching.

Subp. 2. **Core skill areas.** A teacher of special education possesses understandings and skills in special education foundations, processes, and instructional design and teaching in items A to D.

A. A teacher of special education understands the role of special education as one part of a single educational delivery system. The teacher must understand:

- (1) historical and philosophical foundations, legal bases, and contemporary issues pertaining to the education of people with disabilities;
- (2) roles and organizational structures of general and special education and the part they play in providing total services to all students;
- (3) classification of disabilities, their characteristics and continuum of severity, and their educational implications;
- (4) similarities and differences among the cognitive, physical, cultural, social, emotional, and communication needs of typical and exceptional individuals;
- (5) stereotyped attitudes toward people with disabilities and how these attitudes can positively or negatively impact student behavior; and
- (6) the complexity of coexisting disabilities and the implications of this complexity for treatment and education of children.

B. A teacher of special education understands and applies referral, assessment, team planning, and placement procedures. The teacher must understand:

- (1) rights and responsibilities of parents, students, teachers, and schools as these rights and responsibility relate to students with disabilities receiving a free appropriate public education;
- (2) due process and data privacy requirements and how to provide procedural safeguards;

- (3) requirements and procedures of prereferral interventions;
- (4) components of a comprehensive, unbiased assessment;
- (5) use, limitations, ethical concerns, and administration of formal and informal assessments and how to effectively communicate the results to the students, families, teachers, and other professionals;
- (6) effects of various medications on the educational, cognitive, physical, social, and emotional behavior of individuals with disabilities;
- (7) procedures to address a student's mental health needs;
- (8) influence of cultural and linguistic diversity on assessment, eligibility, programming, and placement;
- (9) direct relationship between assessment findings and individual educational program planning;
- (10) full array of available service options; and
- (11) how to establish case records including how to write technically adequate individual education program plans, transition plans, and assessment team summary reports.

C. A teacher of special education understands how to use individualized educational program plans to design and implement developmentally appropriate instruction and how to evaluate the program's effectiveness. The teacher must understand how to:

- (1) adapt and modify curriculum and instruction to meet individual learner needs;
- (2) apply remedial methods, strategies, and accommodations including assistive technologies to meet individual learner needs;
- (3) conduct and use task analysis to appropriately sequence instruction;
- (4) use crisis prevention and intervention strategies;
- (5) apply behavioral theory and ethics in developing and implementing classroom behavior management plans;
- (6) teach in a variety of environments;
- (7) team teach in the general education environment and help general education teachers and other special education teachers serving students in prekindergarten through grade 12 adapt and modify curriculum and instruction to accommodate student needs; and
- (8) apply systematic procedures for compiling data on a student or a group of students for the purpose of continuous program evaluation and improvement.

D. A teacher of special education establishes and maintains positive, collaborative relationships with families and other professionals to support the student's development, learning, and well-being. The teacher must understand:

- (1) the life-long impacts of disabilities on students and their families;
- (2) family systems theory and knowledge of the dynamics, roles, and relationships within families and communities to planning and implementing services;
- (3) the role of parents and caregivers as primary informal teachers of their children;
- (4) how to assist families to identify their resources, priorities, and concerns in relation to their children's development;
- (5) how to work collaboratively with family members in designing, implementing, and evaluating individual educational program plans;
- (6) small group processes and their application to facilitating child study teams, individual educational program planning teams, and transition planning teams;
- (7) structures supporting interagency collaboration, including interagency agreements, referral, and consultation;
- (8) how to provide consultation and training in content areas specific to services for students and families and program organization and development; and
- (9) how to direct and monitor the activities of paraprofessionals, aides, volunteers, and peer tutors.

Subp. 3. **Program requirements.** An institution applying to the Board of Teaching for approval to prepare teachers of special education in parts 8710.5100 to 8710.5800 shall incorporate the requirements of this part in each preparation program.

Subp. 4. **Effective date.** The requirements in this part are effective September 1, 2001, for all applicants for licensure in areas or fields in special education.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.5100 TEACHERS OF SPECIAL EDUCATION: BLIND OR VISUALLY IMPAIRED.

Subpart 1. **Scope of practice.** A teacher of special education: blind or visually impaired is authorized to provide specially designed instruction, from birth through grade 12, to individuals with a broad range of medically diagnosed visual conditions, and to collaborate and consult with families, other classroom and special education teachers, and specialized service providers in designing and implementing individualized educational program plans for students.

Subp. 2. **License requirements.** A candidate for licensure to teach students from birth through grade 12 who are blind or visually impaired shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards of effective practice for licensing of beginning teachers in part 8710.2000;

C. demonstrate core skill requirements in part 8710.5000; and

D. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to licensure of teachers of special education: blind or visually impaired in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of special education: blind or visually impaired must complete a preparation program under subpart 2, item D, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of special education: blind or visually impaired understands the central concepts, tools of inquiry, and history and context of blindness and visual impairments as a foundation on which to base practice. The teacher must understand:

(1) historical and philosophical foundations, legal bases, and contemporary issues pertaining to services to and the education of children and youth who are blind or visually impaired;

(2) current educational definitions, identification criteria and labeling issues, and entrance and exit criteria for services pertaining to individuals who are blind or visually impaired;

(3) development and use of the human visual system and basic terminology related to the structure, function, diseases, and disorders of the human visual system;

(4) the impact of blindness and low vision on the early development of the motor system, cognition, social and emotional interactions, independence, environmental awareness, and language and communication;

(5) the effect that attitudes about blindness and visual impairments can have on children and youth; and

(6) the impacts of other disabilities on children and youth who are blind or visually impaired.

B. A teacher of special education: blind or visually impaired understands referral, assessment, planning, and placement procedures specific to teaching students who are blind or visually impaired. The teacher must understand:

(1) referral and intervention procedures;

(2) use, limitations, ethical concerns, administration, and interpretation of formal and informal assessments and instructional measures for students who are blind or

visually impaired and how to effectively communicate the results to the students, families, teachers, and other professionals;

(3) how to adapt and modify existing assessment tools and methods to accommodate the unique abilities and needs of students who are blind or visually impaired;

(4) how to interview and gather and maintain information from parents, families, teachers, and others for the purpose of assessment and planning, developing, implementing, and evaluating individual education programs;

(5) writing instruments and devices for children and youth birth through grade 12 who are blind or visually impaired;

(6) basic principles and practices of orientation and mobility activities for children and youth birth through grade 12 who are blind or visually impaired;

(7) devices and strategies to optimize the use of vision including print, adaptive, optical, and nonoptical devices;

(8) uses and sources of appropriate materials, equipment, and adaptive, augmentative, and assistive technologies to meet the needs of children and youth who are blind or visually impaired;

(9) how children and youth birth through grade 12 who are blind or visually impaired can enhance the use of senses other than vision;

(10) how to transcribe, proofread, and interline materials using accepted Braille codes;

(11) various educational placement options and the selection of appropriate options based on the needs of the individual; and

(12) how to design individual plans that integrate assessment results and family priorities, resources, and concerns and that incorporate, when appropriate, nonacademic and academic goals and the appropriate use of adaptive, augmentative, and assistive technologies.

C. A teacher of special education: blind or visually impaired understands how to use individual education program plans to design and implement developmentally appropriate instruction for students who are blind or visually impaired. The teacher must understand how to:

(1) produce Braille materials using devices including the Braille writer, slate and stylus, and computer;

(2) apply methods for the development of auditory, tactual, and modified visual communication skills for children and youth birth through grade 12 who are blind or visually impaired;

(3) select and use adaptive, augmentative, and assistive technologies appropriate to individual needs;

(4) apply strategies and techniques for modifying instructional methods and materials for teaching children and youth who are blind or visually impaired;

(5) provide instruction in Braille using accepted codes in the Codes of American Usage of English Braille;

(6) use assistive technology and technical aids in the production of materials;

(7) develop, implement, and evaluate age-appropriate curriculum in reading, language arts, science, mathematics, and social studies;

(8) apply strategies for teaching self-advocacy and functional life skills relevant to independence, social skills, community and personal living, and employment;

(9) construct instructional sequences to teach transition skills based on the cognitive, affective, and academic strengths of each student and plans for transitioning to the next educational setting or to employment; and

(10) monitor, summarize, and evaluate the acquisition of the outcomes stated in the student's individual plans.

D. A teacher of special education: blind or visually impaired communicates and interacts with students, families, other teachers, and the community to support student learning and well-being. The teacher must understand:

(1) how to assist students and their parents in making choices that impact academic and occupational decisions;

(2) sources of unique services, networks, agencies, and organizations for individuals who are blind or visually impaired including rehabilitation agencies, volunteer organizations, private nonprofit organizations, and federal entitlements that relate to the provision of specialized equipment and materials;

(3) the roles of related services including occupational therapists, physical therapists orientation, and mobility specialists;

(4) the educational roles and responsibilities of other teachers and support personnel in providing educational services to students who are blind or visually impaired;

(5) structures supporting interagency collaboration and how to implement, monitor, and evaluate interagency agreements and transition plans;

(6) school, community, and social services appropriate to individuals who are blind or visually impaired and how to identify and access services that will enhance instruction and programming; and

(7) how to access and evaluate information relevant to the field of blindness and visual impairment through consumer and professional organizations, publications, and journals.

E. A teacher of special education: blind or visually impaired applies the standards of effective practice in teaching students who are blind or visually impaired through a variety of early and ongoing clinical experiences with prekindergarten, kindergarten or primary, intermediate or middle level, and high school students across a range of service delivery models.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to rules of the Board of Teaching governing continuing licenses.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of special education: blind or visually impaired are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.5200 TEACHERS OF SPECIAL EDUCATION: DEAF OR HARD OF HEARING.

Subpart 1. **Scope of practice.** A teacher of special education: deaf or hard of hearing is authorized to provide specially designed instruction, from birth through grade 12, to individuals with a broad range of hearing loss and to collaborate and consult with families, other classroom and special education teachers, and specialized service providers in designing and implementing individualized educational program plans for students.

Subp. 2. **License requirements.** A candidate for licensure to teach, from birth through grade 12, individuals who are deaf or hard of hearing shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000;

C. demonstrate core skill requirements in part 8710.5000; and

D. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of special education: deaf or hard of hearing in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of special education: deaf or hard of hearing must complete a preparation program under subpart 2, item D, that must include the candidate's demonstration of the knowledge and skills in items A to F.

A. A teacher of special education: deaf or hard of hearing understands the central concepts, tools of inquiry, and history and context of deaf or hard of hearing as a foundation on which to base practice. The teacher must understand:

(1) historical and philosophical foundations, legal bases, and contemporary issues pertaining to services to and the education of children and youth who are deaf or hard of hearing;

(2) current educational definitions, identification criteria and labeling issues, and entrance and exit criteria for services pertaining to individuals who are deaf or hard of hearing;

(3) models, theories, and philosophies that provide the basis for education of students who are deaf or hard of hearing including bilingual–bicultural, total communication, SimCom, and oral/aural;

(4) etiologies of hearing loss that can result in additional sensory, motor, or learning differences in students who are deaf or hard of hearing;

(5) effects of sensory input on the development of language and the social and emotional development of children and youth who are deaf or hard of hearing;

(6) the fundamentals of information processing theory; and

(7) beliefs, traditions, and values across cultures and within society and the impact of these on children and youth who are deaf or hard of hearing, their families, and their schooling.

B. A teacher of special education: deaf or hard of hearing understands deaf culture and is able to communicate in the modality or language used by students. The teacher must:

(1) understand principles of communication modes used by students who are deaf or hard of hearing;

(2) understand current theories of language development and second language acquisition;

(3) understand theories of linguistics, including linguistics of American sign language and its history in the deaf culture;

(4) be able to use manually coded communications to include cued speech or SimCom;

(5) demonstrate an intermediate–plus level of American sign language proficiency on the Signed Communication Proficiency Interview (SCPI);

(6) understand deaf culture from a variety of perspectives, including the historical, geographical, political, and contemporary viewpoints;

(7) understand the history, customs, and practices of deaf culture sufficient for comprehending why current conditions exist; and

(8) understand how to bridge communication and cultural systems.

C. A teacher of special education: deaf or hard of hearing understands referral, assessment, planning, and placement procedures specific to teaching students who are deaf or hard of hearing. The teacher must understand:

(1) referral and intervention procedures;

(2) use, limitations, ethical concerns, administration, and interpretation of formal and informal assessments and instructional measures for students who are deaf or hard of hearing and how to effectively communicate the results to the students, families, teachers, and other professionals;

(3) how to adapt and modify existing assessment tools and methods to accommodate the unique abilities and needs of students who are deaf or hard of hearing;

(4) how to interview, gather, and maintain information from parents, families, teachers, and others for the purpose of assessment and planning, developing, implementing, and evaluating individual education programs;

(5) how to administer appropriate assessment tools using the natural, native, or preferred language of the student who is deaf or hard of hearing;

(6) how to use exceptionality specific assessment instruments appropriate for children and youth who are deaf or hard of hearing including the SAT–HI, TERA–DHH, and FSST;

(7) how to assess phonological, morphological, syntactical, semantic, char-
emic, and nonmanual markers development of language of students who are deaf or hard of hearing;

(8) various systems used by public agencies to screen for hearing loss in children, with emphasis on early detection and prevention;

(9) how to assess and recommend alternative communication systems and manage their use by others;

(10) how to monitor the functioning of hearing aids, auditory training equipment, and assistive technology;

(11) techniques for optimizing residual hearing in students who are deaf or hard of hearing;

(12) uses and sources of appropriate materials, equipment, and adaptive, augmentative, and assistive technologies to meet the needs of children and youth who are deaf or hard of hearing;

(13) how to facilitate ongoing interactions of students who are deaf or hard of hearing with deaf or hard of hearing peers and with hearing peers;

(14) various educational placement options and selection of appropriate options based on the needs of the individual; and

(15) how to design individual plans that integrate assessment results and family priorities, resources, and concerns and that incorporate, when appropriate, nonacademic and academic goals and the appropriate use of adaptive, augmentative, and assistive technologies.

D. A teacher of special education: deaf or hard of hearing understands how to use individual education program plans to design and implement developmentally appropriate instruction for students who are deaf or hard of hearing. The teacher must understand how to:

(1) adapt instructional processes and classroom environments to meet the physical, cognitive, cultural, and communication needs of children and youth who are deaf or hard of hearing;

(2) provide for the early development of visual, speech, and auditory modalities to accommodate the hearing loss;

(3) facilitate independent communication behavior in children and youth who are deaf or hard of hearing;

(4) establish and use an oral auditory instructional environment for students who are deaf or hard of hearing as appropriate;

(5) design learning environments that maximize opportunities for visual oriented, tactual, and auditory learning as appropriate;

(6) develop, implement, and evaluate age-appropriate curriculum in reading, mathematics, and language skills;

(7) select, use, and manage age-appropriate teaching and communication strategies for language growth including second language acquisition strategies and activities for promoting literacy in English and American sign language;

(8) incorporate into the academic program speech skills that are consistent with the education plan and the student's preferred communication mode;

(9) use strategies for teaching self-advocacy;

(10) effectively use educational interpreters, tutors, and notetakers;

(11) construct instructional sequences to teach transition skills based on the cognitive, affective, and academic strengths of each student and plans for transitioning to the next educational setting or to employment; and

(12) monitor, summarize, and evaluate the acquisition of the outcomes stated in the individual plans.

E. A teacher of special education: deaf or hard of hearing communicates and interacts with students, families, other teachers, and the community to support student learning and well-being. The teacher must understand:

(1) how to assist students and their parents in making choices that impact academic and occupational decisions;

(2) structures supporting interagency collaboration and how to implement, monitor, and evaluate interagency agreements and transition plans;

(3) sources of unique services, networks, agencies, and organizations for individuals who are deaf or hard of hearing;

(4) school, community, and social service agencies appropriate to individuals who are deaf or hard of hearing and how to access services that will enhance instruction and programming;

(5) the educational roles and responsibilities of other teachers and support personnel including educational interpreters, tutors, and notetakers in providing education services to students who are deaf or hard of hearing; and

(6) how to access information relevant to the field of deafness and hearing loss through consumer and professional organizations, publications, and journals.

F. A teacher of special education: deaf or hard of hearing shall apply the standards of effective practice in teaching students who are deaf or hard of hearing through a variety of early and ongoing clinical experiences with prekindergarten, kindergarten or primary, intermediate or middle level, and high school students across a range of service delivery models.

Subp. 4. Continuing licensure.

A. Teachers who have not achieved a survival plus proficiency in American sign language on the Signed Communication Proficiency Interview (SCPI) shall renew a continuing license according to rules of the Board of Teaching governing continuing licenses. Compliance of these requirements for a teacher of special education: deaf or hard of hearing must include 60 clock hours of continuing education in American sign language, American sign language linguistics, or deaf culture, and evidence of having achieved or attempted to achieve a survival plus level of American sign language proficiency on the Signed Communication Proficiency Interview (SCPI).

B. Teachers who have achieved a survival plus proficiency level in American sign language on the Signed Communication Proficiency Interview (SCPI) shall renew a continuing license according to rules of the Board of Teaching governing continuing licenses and must include 60 clock hours of continuing education in American sign language, American sign language linguistics, or deaf culture.

Subp. 5. Incorporation by reference. For the purposes of this part, the Signed Communication Proficiency Interview (SCPI) Guidelines published in August 1994 by the National Technical Institute for the Deaf, Rochester Institute of Technology, 52 Lomb Memorial Drive, Rochester, NY 14623-5604, and subsequent editions are incorporated by reference. The guidelines are not subject to frequent change and are available from the State Law Library.

Subp. 6. Effective date. Requirements in this part for licensure as a teacher of special education: deaf or hard of hearing are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.5250 TEACHERS OF SPECIAL EDUCATION: ORAL/AURAL DEAF EDUCATION.

Subpart 1. Scope of practice. A teacher of special education: oral/aural deaf education is authorized to provide specially designed instruction, from birth through grade 12, to individuals with a broad range of hearing loss and to collaborate and consult with families, other classroom and special education teachers, and specialized service providers in designing and implementing individualized educational program plans for students only in oral/aural deaf education programs or itinerant services and only for students who do not require American Sign Language or other signed systems for their language of instruction.

Subp. 2. License requirements. A candidate for licensure as a teacher of oral/aural deaf education, from birth through grade 12, shall meet all requirements of part 8710.5200, subpart 2.

Subp. 3. Subject matter standard. A candidate for licensure as a teacher of oral/aural deaf education shall demonstrate all knowledge and skills in part 8710.5200, subpart 3, items A to F, except item B, subitems (4) and (5), and item D, subitem (7), and shall demonstrate at least minimum skills in American Sign Language, verified through one of the following:

A. successful completion of at least six semester credits of coursework in American Sign Language; or

B. demonstration of at least survival level proficiency in American Sign Language on the Signed Communication Proficiency Interview (SCPI), as incorporated by reference in part 8710.5200, subpart 5.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to the rules of the Board of Teaching governing licensure.

Subp. 5. **Effective date.** All requirements in this part for licensure as a teacher of special education: oral/aural deaf education are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.28*

History: *24 SR 1129*

8710.5300 TEACHERS OF SPECIAL EDUCATION: DEVELOPMENTAL ADAPTED PHYSICAL EDUCATION.

Subpart 1. **Scope of practice.** A teacher of special education: developmental adapted physical education is authorized to provide specially designed instruction in physical education to students with identified disabilities in prekindergarten through grade 12 who have special education needs in the areas of physical fitness and gross motor skills, and to collaborate and consult with families, other classroom and special education teachers, and specialized service providers in designing and implementing individualized physical educational program plans for the students.

Subp. 2. **License requirements.** A candidate for licensure as a teacher of special education: developmental adapted physical education to teach prekindergarten through grade 12 students who need an individualized physical education plan shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. hold or apply and qualify for a valid Minnesota physical education teaching license;

C. demonstrate core skill requirements in part 8710.5000; and

D. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of special education: developmental adapted physical education in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of special education: developmental adapted physical education must complete a preparation program under subpart 2, item D, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of special education: developmental adapted physical education understands the central concepts, tools of inquiry, history, and context of developmental adapted physical education. The teacher must understand:

(1) historical and philosophical foundations, legal bases, and contemporary issues pertaining to services to and the education of students with identified disabilities as the issues apply to physical fitness and gross motor skills;

(2) current educational definitions, identification criteria and labeling issues, and entrance and exit criteria for services pertaining to individuals who have disabilities relating to physical fitness and gross motor skills;

(3) theoretical foundations and sequences of typical and atypical motor learning, motor development, and motor skills acquisition from birth to adulthood relating to physical fitness and gross motor skills;

(4) lifespan implications of medical, health, skeletal, and neurological conditions on motor learning and development from typical and atypical perspectives;

(5) principles of anatomical structure, physiology, and kinesiology across the lifespan from a typical and atypical development perspective;

(6) how disabling conditions and behaviors with single- and cross categorical disabilities interrelate with motor functioning and motor skill acquisition; and

(7) impacts of atypical motor development and function on the educational, social, and psychological well-being of students.

B. A teacher of special education: developmental adapted physical education understands referral, assessment, planning, and placement procedures specific to teaching students with disabilities in physical fitness and gross motor skills. The teacher must understand:

- (1) referral and intervention procedures;
- (2) use, limitations, ethical concerns, administration, and interpretation of formal and informal assessments for students with identified disabilities in physical fitness and gross motor skills and how to effectively communicate the results to the students, families, teachers, and other professionals;
- (3) how to adapt and modify existing assessment tools and methods to accommodate the unique abilities and needs of students with disabilities in physical fitness and gross motor skills;
- (4) health-related aspects of physical fitness and their implications for students with disabilities;
- (5) the mechanics and application of assistive devices toward the acquisition of physical fitness and motor skills;
- (6) various educational placement options and the selection of appropriate options based on the needs of the individual; and
- (7) how to design individual plans that integrate assessment results and family priorities, resources, and concerns that incorporate, when appropriate, academic and non-academic goals and the appropriate use of adaptive, augmentative, and assistive technologies in the physical education setting.

C. A teacher of special education: developmental adapted physical education understands how to use individual education program plans to design and implement developmentally appropriate instruction for students with disabilities in the areas of physical fitness and gross motor skills. The teacher must understand how to:

- (1) develop, select, adapt, and use a variety of instructional resources, strategies, and techniques to implement developmentally adapted physical education services as part of a student's accommodation plan or individual educational program plan;
- (2) select and adapt equipment essential to instruction in physical fitness and gross motor skills;
- (3) establish learning environments that enable students with disabilities to safely and actively participate in motor programming;
- (4) apply techniques for communicating with students who are nonverbal or have limited verbal expression;
- (5) apply strategies for teaching self-advocacy and functional life skills relevant to independence, social skills, community and personal living, and employment;
- (6) provide students with learning experiences that will enable them to be life-long participants in physical recreation and leisure activities; and
- (7) monitor, summarize, and evaluate the acquisition of outcomes stated in the individual plans.

D. A teacher of special education: developmental adapted physical education communicates and interacts with students, families, other teachers, and the community to support student learning and well-being. The teacher must understand:

- (1) how to assist students and their parents in making choices that impact academic and occupational decisions;
- (2) sources of unique services, networks, agencies, and organizations for students with identified disabilities who have special education needs in physical fitness and gross motor skills;
- (3) educational roles and responsibilities of other teachers and support personnel in providing educational services to students with identified disabilities in physical fitness and gross motor skills;

(4) roles of occupational therapists and physical therapists in relationship to delivering developmental adapted physical education services;

(5) how to collaborate with caregivers to locate community and state resources for further participation in leisure and recreational activities for children and youth with disabilities; and

(6) how to access information relevant to the field of developmental adapted physical education through consumer and professional organizations, publications, and journals.

E. A teacher of special education: developmental adapted physical education applies the standards of effective practice in teaching students who have special education needs in the development of the students' physical fitness and gross motor skills through a variety of early and ongoing clinical experiences with prekindergarten, kindergarten or primary, intermediate or middle level, and high school students across a range of service delivery models.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to rules of the Board of Teaching governing continuing licenses.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of special education: developmental adapted physical education are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.5400 TEACHERS OF SPECIAL EDUCATION: DEVELOPMENTAL DISABILITIES.

Subpart 1. **Scope of practice.** A teacher of special education: developmental disabilities is authorized to provide specially designed instruction in kindergarten through grade 12 to students with a broad range of cognitive impairments and deficits in adaptive behavior and to collaborate and consult with families, other classroom and special education teachers, and specialized service providers in designing and implementing individualized educational program plans for students.

Subp. 2. **License requirements.** A candidate for licensure as a teacher of special education: developmental disabilities to teach students with developmental disabilities in kindergarten through grade 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards of effective practice for licensing of beginning teachers enumerated in part 8710.2000;

C. demonstrate core skill requirements in part 8710.5000; and

D. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of special education: developmental disabilities enumerated in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of special education: developmental disabilities must complete a preparation program under subpart 2, item C, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of special education: developmental disabilities understands the central concepts, tools of inquiry, and history and context of developmental disabilities as a foundation on which to base practice. The teacher must understand:

(1) historical and philosophical foundations, legal bases, and contemporary issues pertaining to services to and the education of children and youth with a broad range of cognitive impairments and deficits in adaptive behavior;

(2) the etiology, characteristics, and classifications of developmental disabilities;

(3) current educational definitions, identification criteria and labeling issues, and entrance and exit criteria for services pertaining to students with developmental disabilities;

(4) general developmental, academic, social, and functional characteristics of individuals with developmental disabilities as they relate to levels of support needed;

(5) research-based theories of behavior problems exhibited by individuals with developmental disabilities;

(6) social-emotional aspects of developmental disabilities, including adaptive behavior, social competence, social isolation, and learned helplessness and the impact on family and community relationships;

(7) impact of multiple disabilities on learning and behavior; and

(8) medical aspects and terminology of cognitive impairments, disabilities, and their implications for learning.

B. A teacher of special education: developmental disabilities understands referral, assessment, planning, and placement procedures specific to teaching students with developmental disabilities. The teacher must understand:

(1) referral and intervention procedures;

(2) use, limitations, ethical concerns, administration, and interpretation of formal and informal assessments for students with developmental disabilities and how to effectively communicate the results to the students, families, teachers, and other professionals;

(3) factors that may influence the over- and under-representation of culturally or linguistically diverse students in programs for students with developmental disabilities;

(4) how to adapt and modify existing assessment tools and methods to accommodate the unique abilities and needs of students with developmental disabilities;

(5) how to interview, gather, and maintain information from parents, families, teachers, and other professionals for the purpose of assessment and planning, developing, implementing, and evaluating individual education programs;

(6) how to assess and accommodate for architectural barriers in the educational setting;

(7) how to use and maintain orthotic, prosthetic, assistive, and adaptive equipment effectively;

(8) uses and sources of appropriate materials, equipment, and adaptive, augmentative, and assistive technologies to meet the needs of children and youth with developmental disabilities;

(9) how to manage student support needs including the medical complications and implications of tube feeding, catheterization, seizure management, and CPR;

(10) various educational models and setting options and the selection of appropriate options based on the needs of the student; and

(11) how to design individual plans that integrate assessment results, family priorities, resources, and concerns and that incorporate, when appropriate, nonacademic and academic goals and the appropriate use of adaptive, augmentative, and assistive technologies.

C. A teacher of special education: developmental disabilities understands how to use individual education program plans to design and implement developmentally appropriate instruction for students with developmental disabilities. The teacher must understand how to:

(1) apply research-supported instructional strategies and practices, including functional developmental disabilities skills approach, community-based instruction, task analysis, multisensory, and concrete or manipulative techniques;

(2) select, adapt, and implement developmentally appropriate classroom management strategies for students with developmental disabilities;

(3) establish classroom environments to meet the physical, cognitive, cultural, and communication needs of children and youth with developmental disabilities;

(4) design, adapt, modify, implement, and evaluate instructional programs, processes, and materials to enhance student participation in domestic and family, school, recreation or leisure, community, and work life;

(5) use instructional strategies, adaptive technologies, and sources of specialized materials for students with developmental disabilities;

(6) assist students in using and maintaining alternative and augmentative communication systems;

(7) *implement recommended mobility techniques*;

(8) stimulate language development, teach basic academic and literacy skills, and integrate art, music, and body movement into the instruction;

(9) manage student self-care, health, and safety needs;

(10) construct instructional sequences to teach transition skills based on cognitive, affective, and academic strengths of each student and plans for transition from school to postsecondary training and employment; and

(11) monitor, summarize, and evaluate the acquisition of the outcomes stated in the individual plans.

D. A teacher of special education: developmental disabilities communicates and interacts with students, families, other teachers, and the community to support student learning and well-being. The teacher must understand:

(1) how to assist students and their parents in making choices that impact academic and occupational decisions;

(2) sources of unique services, networks, agencies, and organizations for individuals with developmental disabilities;

(3) the structures supporting interagency collaboration and how to implement, monitor, and evaluate interagency agreements and transition plans;

(4) the educational roles and responsibilities of other teachers and support personnel in providing educational services to students with developmental disabilities;

(5) school, community, and social services appropriate to individuals with developmental disabilities and how to identify and access services that will enhance instruction and programming; and

(6) how to access and evaluate information relevant to the field of developmental disabilities through consumer and professional organizations, publications, and journals.

E. A teacher of special education: developmental disabilities applies the standards of effective practice in teaching students with developmental disabilities through a variety of early and ongoing clinical experiences with kindergarten or primary, intermediate or middle level, and high school students across a range of service delivery models.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to rules of the Board of Teaching governing continuing licenses.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of special education: developmental disabilities are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.5500 TEACHERS OF SPECIAL EDUCATION: EARLY CHILDHOOD.

Subpart 1. **Scope of practice.** A teacher of special education: early childhood is authorized to provide specifically designed instruction to children, birth through age six, who exhibit a broad range of developmental delays or disabilities or medical complications and to collaborate and consult with families, other classroom and special education teachers, and specialized service providers in designing and implementing individualized education program plans for students.

Subp. 2. **License requirements.** A candidate for licensure as a teacher of special education: early childhood to teach, from birth to age six, children with developmental delays, developmental disabilities, or medical complications shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers enumerated in part 8710.2000;

C. demonstrate core skill requirements in part 8710.5000; and

D. show verification of completing a Board of Teaching approved preparation program under part 8700.7600 leading to the licensure of teachers of special education: early childhood in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of special education: early childhood must complete a preparation program under subpart 2, item D, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of special education: early childhood understands the central concepts, tools of inquiry, and history and context of developmental delays and disabilities and medical conditions as a foundation on which to base practice. The teacher must understand:

(1) historical and philosophical foundations, legal bases, and contemporary issues pertaining to services to and the education of young children with disabilities;

(2) etiology, characteristics, and classification of specific disabilities and medical conditions and their developmental and educational implications on infants, toddlers, and young children;

(3) current educational definitions, identification criteria and labeling issues, and entrance and exit criteria pertaining to young children with disabilities and medical conditions;

(4) ethical and policy issues related to educational, social, and medical services unique to young children with disabilities and their families;

(5) how to apply due process safeguards for young children with disabilities;

and
(6) disorders and delays associated with early cognitive development, gross and fine motor development, early sensory development, social and emotional development, and language development.

B. A teacher of special education: early childhood understands referral, assessment, planning, and placement practices specific to teaching children from birth through age six who exhibit a broad range of developmental delays or disabilities or medical complications. The teacher must understand:

(1) referral and intervention procedures;

(2) the use, limitations, ethical concerns, administration and interpretation of formal and informal assessments for young children with disabilities, and how to effectively communicate the results to the students, families, teachers, and other professionals;

(3) how to adapt and modify existing assessment tools and methods to accommodate the unique abilities and needs of young children with disabilities;

(4) how to interview, gather, and maintain information from parents, families, teachers, and others for the purpose of assessment and planning, developing, implementing, and evaluating the individual family service plan and the individual education program;

(5) aspects of medical care for premature, low birth weight, and other medically fragile infants including methods employed in the care of young children dependent on technology;

(6) techniques appropriate for premature, low birth weight, and other medically fragile babies when implementing the individual family service plan or the individual education program plan;

(7) various educational models and setting options and the selection of appropriate options based on the needs of the child; and

(8) how to design individual plans that integrate assessment results and family priorities, resources, and concerns and that incorporate, when appropriate, preacademic and academic goals and the appropriate use of adaptive, augmentative, and assistive technologies.

C. A teacher of special education: early childhood understands how to use individual family services plans and individual education program plans to design and implement developmentally appropriate instruction for young children with developmental delays or disabilities or medical conditions. The teacher must understand how to:

(1) apply intervention curricula and methods for young children with specific disabilities including motor, sensory, health, communication, social-emotional, and cognitive disabilities;

(2) facilitate developmentally and functionally appropriate individual and group activities unique to infants, toddlers, and young children with disabilities;

(3) implement methods of behavior support and management appropriate for young children with disabilities;

(4) provide a variety of stimulus-rich formats unique to young children with disabilities, including play, environmental routines, parent-mediated activities, small group projects, cooperative learning, inquiry experiences, and systematic instruction;

(5) apply current research and recommended practices with emphasis on cognitive, motor, social-emotional, communication, adaptive, and aesthetic development in learning situations within the family;

(6) implement basic health, nutrition, and safety management practices unique to young children with disabilities, including specific procedures for infants and toddlers and procedures regarding childhood illness and communicable diseases;

(7) apply ways of linking current developmental and learning experiences and teaching strategies with those of the next educational setting for young children with disabilities; and

(8) monitor, summarize, and evaluate the acquisition of child and family outcomes included in individual family services plans or individual education program plans.

D. A teacher of special education: early childhood communicates and interacts with students, families, other teachers and the community to support student learning and well-being. The teacher must understand:

(1) sources of unique services, networks, agencies, and organizations for young children who exhibit a broad range of developmental delays or disabilities or medical complications;

(2) structures supporting interagency collaboration and how to implement, monitor, and evaluate interagency agreements and transition plans;

(3) school, community, and social services appropriate for young children with special needs and how to identify and access services that will enhance programs for young children with developmental delays or disabilities and medical conditions;

(4) the educational roles and responsibilities of other teachers and support personnel in providing educational services to young children with disabilities;

(5) ways of assisting the family in planning for transition of young children with disabilities;

(6) processes and strategies that support transitions among hospital, home, infant and toddler, preprimary, and primary programs; and

(7) how to access information relevant to the field of early childhood special education from consumer and professional organizations, publications, and journals.

E. A teacher of special education: early childhood applies the standards of effective practice in teaching children with developmental delays or disabilities or medical conditions through a variety of early and ongoing clinical experiences with infants, toddlers, and preprimary children across a range of service delivery models.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to rules of the Board of Teaching governing continuing licenses.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of special education: early childhood are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: 23 SR 1928

8710.5600 TEACHERS OF SPECIAL EDUCATION: EMOTIONAL BEHAVIORAL DISORDERS.

Subpart 1. **Scope of practice.** A teacher of special education: emotional behavioral disorders is authorized to provide instruction in kindergarten through grade 12 to students who are experiencing emotional behavioral disorders requiring accommodations, strategies, and interventions and to collaborate and consult with families, other classroom and special education teachers, and specialized service providers in designing and implementing individualized education program plans for students.

Subp. 2. **License requirements.** A candidate for licensure to teach students with emotional behavioral disorders in kindergarten through grade 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards of effective practice for licensing of beginning teachers in part 8710.2000;

C. demonstrate core skill requirements in part 8710.5000; and

D. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure as a teacher of special education: emotional behavioral disorders in subpart 3.

Subp. 3. **Program requirements.** A candidate for licensure as a teacher of special education: emotional behavioral disorders must complete a preparation program under subpart 2, item D, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of special education: emotional behavioral disorders understands the central concepts, tools of inquiry, and history and context of emotional behavioral disorders as a foundation on which to base practice. The teacher must understand:

(1) historical and philosophical foundations, legal bases, and contemporary issues pertaining to services to and the education of children and youth with emotional behavioral disorders;

(2) current educational definitions, identification criteria and labeling issues, and entrance and exit criteria pertaining to children and youth with emotional behavioral disorders;

(3) etiology, characteristics, and classifications of emotional behavioral disorders;

(4) social development theory;

(5) socioeconomic factors that impact students experiencing an emotional behavioral disorder;

(6) impact of disabling conditions on behaviors;

(7) impacts of abuse and dependency on individuals, their families, and the community;

(8) factors that build resiliency;

(9) how aggression, anxiety, withdrawal, and thought disorder affect behavior;

(10) the legal system as it affects children and youth with emotional behavioral disorders;

(11) the major mental health disorders manifested during childhood, adolescence, and adulthood and the complexities of comorbidity including behavioral manifestations of these disorders;

(12) nationally accepted psychiatric nomenclature necessary to communicate effectively with families, mental health professionals, and other personnel across agencies; and

(13) the relationship between emotional behavioral disorders and children's mental health.

B. A teacher of special education: emotional behavioral disorders understands referral, assessment, planning, and placement procedures specific to teaching students with emotional behavioral disorders. The teacher must understand:

- (1) referral and intervention procedures;
- (2) use, limitations, ethical concerns, administration and interpretation of formal and informal assessments for students with emotional behavioral disorders and how to effectively communicate the results to the students, families, teachers, and other professionals;
- (3) how to adapt and modify existing assessment tools and methods to accommodate the unique abilities and needs of students with emotional behavioral disorders;
- (4) how to interview, gather, and maintain information from parents, families, teachers, and others for the purpose of assessment and planning, developing, implementing, and evaluating individual education programs;
- (5) factors that may influence the over- and under-representation of culturally or linguistically diverse students in programs for students with emotional behavioral disorders;
- (6) rationale for selecting specific behavior management strategies for students experiencing emotional behavioral disorders;
- (7) various educational placement options and the selection of appropriate options based on the needs of the student; and
- (8) how to integrate assessment results and information generally available from family, school personnel, legal system, department of social and health services, and mental health agencies in developing individual education program plans.

C. A teacher of special education: emotional behavioral disorders understands how to use individual education program plans to design and implement developmentally appropriate instruction for students with emotional behavioral disorders. The teacher must understand how to:

- (1) identify target behaviors to be changed and the critical variables affecting the target behavior, including antecedent events and consequences;
- (2) develop, implement, and evaluate a systematic behavior management plan for students experiencing emotional behavioral disorders;
- (3) apply the theory and rationale underlying various curriculum approaches to basic skills and how to select and implement remedial strategies in academic skill areas;
- (4) integrate academic instruction, affective education, and behavior management for individual students and groups of students experiencing emotional behavior disorders;
- (5) design and use materials for skill development in social areas;
- (6) determine each student's reinforcement preference hierarchy and use different reinforcers to change and maintain behavior;
- (7) apply a variety of positive procedures and proactive strategies for managing targeted behaviors;
- (8) apply appropriate behavior management strategies and safety procedures to be used in crisis situations;
- (9) apply strategies for managing presenting behavior and specific educational-social problems, selecting a functional and safe classroom design, and establishing consistent classroom routines for students experiencing emotional behavioral disorders;
- (10) apply ethical and legal considerations in the effective use of intrusive behavioral interventions;
- (11) construct instructional sequences to teach transition skills based on the cognitive, affective, and academic strengths of each student and plans for transition from school to postsecondary training and employment; and
- (12) how to monitor, summarize, and evaluate the acquisition of the outcomes stated in the individual plans.

D. A teacher of special education: emotional behavioral disorders communicates and interacts with students, families, other teachers, and the community to support student learning and well-being. The teacher must understand:

- (1) how to assist students and their families in making choices that impact academic and occupational decisions;

(2) sources of unique services, networks, agencies, and organizations for students with emotional behavioral disorders;

(3) issues, resources, and strategies used to transition students experiencing emotional behavioral disorders into and out of alternative environments, including special centers, psychiatric hospitals, and residential treatment centers;

(4) educational roles and responsibilities of other teachers and support personnel in providing educational services to students with emotional behavioral disorders;

(5) the role and responsibilities of mental health professionals in providing services to students with emotional behavioral disorders and how this role differs from that of the teacher of special education, emotional behavioral disorders; and

(6) how to access information relevant to the field of emotional behavioral disorders through consumer and professional organizations, publications, and journals.

E. A teacher of special education: emotional behavioral disorders applies the standards of effective practice in teaching students with emotional behavioral disorders through a variety of early and ongoing clinical experiences with kindergarten or primary, intermediate or middle level, and high school students across a range of service delivery models.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to rules of the Board of Teaching governing continuing licenses.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of special education: emotional behavioral disorders are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928*

8710.5700 TEACHERS OF SPECIAL EDUCATION: LEARNING DISABILITIES.

Subpart 1. **Scope of practice.** A teacher of special education: learning disabilities is authorized to provide specially designed instruction in reading, mathematics, written and oral expression, and listening comprehension, in kindergarten through grade 12 to students with learning disabilities or learning deficits and to collaborate and consult with families, other classroom and special education teachers, and specialized service providers in designing and implementing individualized educational program plans for students.

Subp. 2. **License requirements.** A candidate for licensure to teach students who are exhibiting significant deficits in reading, mathematics, written and oral expression, and listening comprehension in kindergarten through grade 12 shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards of effective practice for licensing of beginning teachers in part 8710.2000;

C. demonstrate core skill requirements in part 8710.5000; and

D. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of special education: learning disabilities in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of special education: learning disabilities must complete a preparation program under subpart 2, item D, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of special education: learning disabilities understands the central concepts, tools of inquiry, and history and context of learning disabilities and learning deficits as a foundation on which to base practice. The teacher must understand:

(1) historical and philosophical foundations, legal bases, and contemporary issues pertaining to services to and the education of children and youth with learning disabilities or learning deficits;

(2) current educational definitions, identification criteria and labeling issues, and entrance and exit criteria pertaining to children and youth with learning disabilities or learning deficits;

- (3) the etiology of learning disabilities and learning deficits;
- (4) relationship between learning disabilities and other associated conditions including medical aspects of learning disabilities;
- (5) impact of information processing deficits on children and youth with learning disabilities; and
- (6) social or emotional aspects of children and youth with learning disabilities, including social skill deficits, mental health issues, juvenile delinquency, learned helplessness, and other conditions that occur with learning disabilities.

B. A teacher of special education: learning disabilities understands referral, assessment, planning, and placement procedures specific to teaching students with learning disabilities or learning deficits. The teacher must understand:

- (1) referral and intervention procedures;
- (2) use, limitations, ethical concerns, administration and interpretation of formal and informal assessments for students with learning disabilities or learning deficits, and how to effectively communicate the results to the students, families, teachers, and other professionals;
- (3) how to adapt and modify existing assessment tools and methods to accommodate the unique abilities and needs of students with learning disabilities or learning deficits;
- (4) factors that may influence the over- and under-representation of culturally or linguistically diverse students in programs for students with learning disabilities or learning deficits;
- (5) impact of language development on the academic and social skills of children and youth with learning disabilities or learning deficits;
- (6) various educational placement options and the selection of appropriate options based on the needs of the student;
- (7) how to interview, gather, and maintain information from parents, families, teachers, and others for the purpose of assessment and planning, developing, implementing, and evaluating individual education programs; and
- (8) how to design individual plans that integrate assessment results and family priorities, resources, and concerns and that incorporate, when appropriate, academic and nonacademic goals.

C. A teacher of special education: learning disabilities understands how to use individual education program plans to design and implement developmentally appropriate instruction for students with learning disabilities or learning deficits. The teacher must understand how to:

- (1) teach reading, writing, and listening comprehension and how to modify this instruction for students with learning disabilities or learning deficits;
- (2) teach mathematical reasoning and calculation and how to modify this instruction for students with learning disabilities or learning deficits;
- (3) use strategies for teaching reasoning, problem solving skills, study skills, organizational skills, and coping skills;
- (4) manage the social, emotional, and behavioral needs of students with learning disabilities or learning deficits;
- (5) help students with learning disabilities or learning deficits transfer skills to the general education environment;
- (6) construct instructional sequences to teach transition skills based on the cognitive, affective, and academic strengths of each student and plans for transition from school to postsecondary training and employment; and
- (7) monitor, summarize, and evaluate the acquisition of the outcomes stated in the individual plans.

D. A teacher of special education: learning disabilities communicates and interacts with students, families, other teachers, and the community to support student learning and well-being. The teacher must understand:

(1) how to assist students and their parents in making choices that impact academic and occupational decisions;

(2) sources of unique services, networks, agencies, and organizations for individuals with learning disabilities or learning deficits;

(3) the educational roles and responsibilities of other teachers and support personnel in providing educational services to students with learning disabilities or learning deficits; and

(4) how to access information relevant to the field of learning disabilities and learning deficits through consumer and professional organizations, publications, and journals.

E. A teacher of special education: learning disabilities shall apply the standards of effective practice in teaching students with learning disabilities and learning deficits through a variety of early and ongoing clinical experiences with kindergarten or primary, intermediate or middle level, and high school students across a range of service delivery models.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to rules of the Board of Teaching governing continuing licenses.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of special education: learning disabilities are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: 23 SR 1928

8710.5800 TEACHERS OF SPECIAL EDUCATION: PHYSICAL AND HEALTH DISABILITIES.

Subpart 1. **Scope of practice.** A teacher of special education: physical and health disabilities is authorized to provide specialized instructional services in prekindergarten through grade 12 to children and youth with medically diagnosed physical or health disabilities and to collaborate and consult with families, other classroom and special education teachers, and specialized service providers in designing and implementing individualized educational program plans for students.

Subp. 2. **License requirements.** A candidate for licensure to teach prekindergarten through grade 12 students with physical or health disabilities shall:

A. hold a baccalaureate degree from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools;

B. demonstrate the standards for effective practice for licensing of beginning teachers in part 8710.2000;

C. demonstrate core skill requirements in part 8710.5000; and

D. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of teachers of special education: physical and health disabilities in subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of special education: physical and health disabilities must complete a preparation program under subpart 2, item D, that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of special education: physical and health disabilities understands the central concepts, tools of inquiry, and history and context of physical and health disabilities as a foundation on which to base practice. The teacher must understand:

(1) historical and philosophical foundations, legal bases, and contemporary issues pertaining to services to and the education of children and youth with medically diagnosed physical or health-related disabilities;

(2) the etiology, characteristics, and classification of physical and health-related disabilities and their developmental and educational implications on children and youth;

(3) current educational definitions, identification criteria and labeling issues, and entrance and exit criteria for services pertaining to students with physical or health-related disabilities;

(4) implications of physical and health disabilities on psychosocial, educational, vocational, and leisure outcomes for students;

(5) basic principles of human anatomy, physiology, pharmacology, kinesiology, and neurology;

(6) secondary health care issues which accompany specific physical and health disabilities;

(7) condition-specific needs as these needs relate to managing personal physical care for children and youth with physical or health disabilities;

(8) appropriate body mechanics to ensure student and teacher safety in transferring, lifting, positioning, and seating;

(9) first aid techniques and evacuation procedures necessary to maintain the safety of students in a variety of educational settings;

(10) how to assess reliable methods of response of individuals who lack typical communication and performance abilities;

(11) how to apply recommended universal precautions to maintain healthy environments; and

(12) common environmental and structural barriers that hinder accessibility and acceptance of individuals with physical and health disabilities.

B. A teacher of special education: physical and health disabilities understands referral, assessment, planning and placement procedures specific to teaching students with physical or health related disabilities. The teacher must understand:

(1) referral and intervention procedures;

(2) use, limitations, ethical concerns, administration and interpretation of formal and informal assessment for students with a physical or a health disability and how to effectively communicate the results to the students, families, teachers, and other professionals;

(3) how to adapt and modify existing assessment tools and methods to accommodate the unique abilities and needs of students with physical or health disabilities;

(4) major assessments used to measure motor, auditory, visual, and other learning modalities, and how to adapt and modify assessment measures appropriately for children and youth with physical or health disabilities;

(5) how to assess student need for and the ability to use assistive or adaptive technology;

(6) how to assess the functional skills of children and youth with a physical or health disability;

(7) how to assess for environmental and structural barriers;

(8) school setting adaptations necessary to accommodate the needs and abilities of children and youth with physical or health-related disabilities;

(9) how to interview, gather, and maintain information from parents, families, teachers, and other professionals for purposes of assessment and planning, developing, implementing, and evaluating educational services to students with physical or health disabilities;

(10) communication and social interaction alternatives for individuals who are nonverbal;

(11) uses and sources of appropriate materials, equipment, and adaptive, augmentative, and assistive technologies to meet the needs of children and youth with physical or health disabilities;

(12) various educational placement options and the selection of appropriate options based on the needs of the student;

(13) how to develop and use technology plans based on adaptive technology assessment and integrate these plans into the individual educational program plans; and

(14) how to design individual plans that integrate assessment-based needs results and family priorities, resources, and concerns; and that incorporate, when appropriate, academic and nonacademic goals and the appropriate use of adaptive, augmentative, and assistive technologies.

C. A teacher of special education: physical and health disabilities understands how to use individual education program plans to design and implement developmentally appropriate instruction for students with physical or other health-related impairments. The teacher must understand how to:

- (1) interpret sensory, mobility, reflex, and perceptual information to create appropriate learning plans for children and youth with a physical or health disability;
- (2) implement research-supported instructional practices, strategies, and adaptations necessary to accommodate the unique needs of students with physical or health disabilities;
- (3) adapt, modify, and accommodate curriculum or teach compensatory skills to optimize learning for children and youth with physical or health disabilities;
- (4) apply the knowledge of fine-, gross-, and sensori-motor development to curriculum selection and design;
- (5) construct instructional sequences to teach transition skills based on the cognitive, affective, and academic strengths of each student and plans for transition from school to postsecondary training and employment;
- (6) apply strategies for teaching self-advocacy; and
- (7) monitor, summarize, and evaluate the acquisition of the outcomes stated in the individual plans.

D. A teacher of special education: physical and health disabilities communicates and interacts with students, families, other teachers, and the community to support student learning and well-being. The teacher must understand:

- (1) how to assist students and their parents in making choices that impact academic and occupational decisions;
- (2) sources of unique services, networks, agencies, and organizations for students with physical or health disabilities;
- (3) roles and responsibilities of related services personnel, including physicians, nurses, occupational therapists, physical therapists, prosthetists, rehabilitation engineers, and adapted physical education teachers in the education of students with physical or health disabilities;
- (4) educational roles and responsibilities of other teachers and support personnel in providing educational services to students with physical or health-related disabilities;
- (5) processes and strategies for providing integrated care for children and youth with a physical or health disability, particularly when students are transitioning from home, hospital, or rehabilitation facility to school; and
- (6) how to access information relevant to the field of physical or health disabilities through consumer and professional organizations, publications, and journals.

E. A teacher of special education: physical and health disabilities applies the standards of effective practice in teaching students with physical or health disabilities through a variety of early and ongoing clinical experiences with prekindergarten, kindergarten or primary, intermediate or middle level, and high school students across a range of service delivery models.

Subp. 4. **Continuing licensure.** A continuing license shall be issued and renewed according to rules of the Board of Teaching governing continuing licenses.

Subp. 5. **Effective date.** Requirements in this part for licensure as a teacher of special education: physical and health disabilities are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: 23 SR 1928

OTHER SCHOOL PROFESSIONALS

8710.5900 CAREER AND TECHNICAL EDUCATION ACCOMMODATION SPECIALIST FOR STUDENTS WITH DISABILITIES.

Subpart 1. **Scope of practice.** A career and technical education accommodation specialist for students with disabilities is authorized to analyze and evaluate vocational training

potential, interests, and opportunities; develop career goals, transition needs, and lifework plans; coordinate appropriate career and technical education opportunities and programs; and manage plans for meeting vocational preparation of special needs students.

Subp. 2. License requirements. A candidate for licensure as a career and technical education accommodation specialist for students with disabilities shall hold a baccalaureate degree in education or special education or a baccalaureate degree in vocational rehabilitation or a graduate degree in vocational rehabilitation counseling or a graduate degree in vocational education with a special population specialization from a regionally accredited college or university; and a special education license under part 8710.5100, 8710.5200, 8710.5250, 8710.5400, 8710.5600, 8710.5700, or 8710.5800, and have successfully completed a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of special education; and have successfully completed a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of career and technical education.

Subp. 3. Subject matter standards. A candidate for licensure as a career and technical education accommodation specialist for students with disabilities must successfully complete a preparation program under subpart 2 that includes the candidate's demonstration of the knowledge and skills in items A to D.

A. A career and technical education accommodation specialist for students with disabilities understands various models, methods, and practices of career and technical education and can meet the needs of students with disabilities. The coordinator understands:

- (1) health and safety needs of students to provide a safe education and work environment;
- (2) career and technical education programs such as work-based learning, school-based enterprise, and how students access those programs to gain preparation they need to meet their career goals;
- (3) industry standards for employment;
- (4) laws and rules regarding education, employment, and equity;
- (5) family structures and dynamics;
- (6) labor markets and employment trends;
- (7) important trends in the nature of work settings; and
- (8) graduation standards and how to facilitate appropriate modifications for students with special needs.

B. A career and technical education accommodation specialist for students with disabilities understands and applies processes of referral, assessment, curriculum team planning, and program placement and intervention. The teacher:

- (1) understands career and vocational testing instruments and interpretation of their results;
- (2) adapts and modifies curriculum and instruction to meet individual learner needs;
- (3) compiles student productivity data and provides verbal, written, and graphic presentations;
- (4) knows various teaching and learning styles and strategies that accommodate individual needs;
- (5) adapts and uses assisted technologies and resources for educational and vocational accommodations;
- (6) develops and implements performance evaluation plans based on individual student productivity;
- (7) assesses and documents a learner's skills and abilities through appropriate educational methodology; and
- (8) teaches self-advocacy skills necessary for success in future training or employment.

C. A career and technical education accommodation specialist for students with disabilities understands how to design and manage a system for developmental services and

accommodations for students with special needs in career and technical education. The specialist:

- (1) identifies and allocates resources required to perform effective, efficient service coordination;
- (2) collaborates with school personnel, advocacy groups, and outside agencies to ensure equal access and enrollment in career and technical programs;
- (3) designs systems that monitor delivery of services and special accommodations for the purpose of program improvement;
- (4) provides and coordinates professional development activities for career and technical faculty to enhance understanding of students with special needs;
- (5) designs and implements student advising systems and lifework planning skills for career and technical transition to the work and lifelong learning; and
- (6) establishes and maintains positive, collaborative relationships with students, families, community agencies, business and labor representatives, and other professionals to support students' lifework plans.

D. A career and technical education accommodation specialist for students with disabilities understands career development and development of transitional and lifework plans. The teacher:

- (1) understands career development theory and its application to students with disabilities;
- (2) possesses skills needed to develop and interpret career portfolios and lifework plans;
- (3) interprets, or obtains interpretations from appropriate experts when necessary, medical, psychological, social, special education case files, and vocational data for the development of transition and lifework plans;
- (4) applies local and regional labor market information to the development of lifework plans;
- (5) knows industry standards for employment;
- (6) identifies and implements accommodations for special needs students in the workplace;
- (7) knows career resources such as libraries, community, and Internet systems as they apply to lifework planning;
- (8) facilitates the development of realistic occupational goals and academic standards for students with disabilities; and
- (9) facilitates the job and educational placement of students with disabilities.

Subp. 4. **Professional license.** A professional license shall be issued and renewed according to the rules of the Board of Teaching governing licensure.

Statutory Authority: *MS s 122A.09*

History: *26 SR 700*

8710.6000 SPEECH-LANGUAGE PATHOLOGIST.

Subpart 1. **Scope of practice.** A speech-language pathologist is authorized to provide specialized speech-language services to prekindergarten through grade 12 students with identified communication disabilities including those affecting language, articulation, fluency, and voice.

Subp. 2. **Requirements for first professional license.** A first professional license as a speech-language pathologist shall be granted to an applicant who provides evidence of having completed a master's degree in speech-language pathology from a program accredited by the Council on Academic Affairs of the American Speech-Language-Hearing Association or to an applicant who provides evidence of holding a valid certificate of clinical competence from the American-Speech-Language-Hearing Association.

Subp. 3. [Repealed, 25 SR 805]

Subp. 4. **Professional license.** A professional license shall be renewed according to the rules of the Board of Teaching governing professional licensure.

Subp. 5. **Specialized renewal requirements for licenses issued prior to July 1, 1994.** After June 30, 2007, a person who makes application for renewal of continuing licensure as a speech–language pathologist, but who does not hold a master’s degree in speech–language pathology, must provide evidence that at least 24–quarter hours or 16–semester hours of post–baccalaureate college credit in speech–language pathology or related special education instruction and services have been earned and comply with subpart 4.

Subp. 6. **Effective date.** Requirements in this part for licensure as a speech–language pathologist are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928; 25 SR 805; 30 SR 504*

8710.6100 SCHOOL NURSE.

Subpart 1. **Scope of practice.** A school nurse is authorized to provide to prekindergarten through grade 12 students nursing services in a school setting.

Subp. 2. **Requirements for first professional license.** A candidate for licensure as a school nurse shall:

A. hold a baccalaureate degree in nursing from a regionally accredited college or university;

B. be currently registered in Minnesota to practice as a licensed registered nurse under the Board of Nursing; and

C. be currently registered in Minnesota as a public health nurse under the Board of Nursing.

Subp. 3. [Repealed, 25 SR 805]

Subp. 4. **Professional license.** A professional license shall be renewed according to the rules of the Board of Teaching governing professional licensure. Evidence of current Minnesota Board of Nursing registration as a licensed registered nurse is also required.

Subp. 5. **Maintaining board of nursing registration.** In order to retain licensure as a school nurse, current registration as a registered nurse and registration as a public health nurse must be maintained at all times. Lapse of this registration or licensure is grounds for revocation of licensure as a school nurse.

Persons without baccalaureate degrees who hold valid licenses as school nurses may continue to renew their licenses under subpart 4, provided that requirements for renewal are met. However, if a license is allowed to lapse, persons must meet the licensure requirements in subpart 2 in order to receive a current school nurse license.

Subp. 6. **Effective date.** The requirements in this part for licensure as a school nurse are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928; 25 SR 805*

8710.6200 SCHOOL PSYCHOLOGIST.

Subpart 1. **Scope of practice.** A licensed school psychologist is authorized to provide direct and indirect psychological services to prekindergarten through grade 12 students who are at risk of social and academic failure.

Subp. 2. **Requirements for first professional license.** A candidate for licensure as a school psychologist shall provide evidence of having completed a preparation program in school psychology accredited by the National Association of School Psychologists.

Subp. 3. [Repealed, 25 SR 805]

Subp. 4. **Professional license.** A professional license shall be renewed according to the rules of the Board of Teaching governing professional licensure.

Subp. 5. **Effective date.** Requirements in this part for licensure as a school psychologist are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928; 25 SR 805*

8710.6300 SCHOOL SOCIAL WORKER.

Subpart 1. **Scope of practice.** A school social worker is authorized to provide social work services to prekindergarten through grade 12 students in a school setting. Board of Teaching school social worker licensure is not authorization to practice as a social worker in a school setting without current Board of Social Work licensure to practice as a social worker.

Subp. 2. **Requirements for first professional license.** A candidate for licensure as a school social worker shall:

A. hold a baccalaureate or master's degree in social work from a program accredited by the Council on Social Work Education; and

B. be currently licensed in Minnesota to practice as a social worker under the Board of Social Work.

Subp. 3. [Repealed, 25 SR 805]

Subp. 4. **Professional license.** A professional license shall be renewed according to the rules of the Board of Teaching governing professional licensure. Evidence of current Board of Social Work licensure is also required.

Subp. 5. **Maintaining board of social work licensure.** In order to retain licensure as a school social worker, current Minnesota Board of Social Work licensure must be maintained at all times. Lapse of Board of Social Work licensure is grounds for revocation of the school social worker license.

Subp. 6. **Effective date.** Requirements in this part for licensure as a school social worker are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928; 25 SR 805*

8710.6400 SCHOOL COUNSELOR.

Subpart 1. **Scope of practice.** A school counselor is authorized to provide to kindergarten through grade 12 students school counseling services that focus on the promotion of preventive and educational strategies to enhance the cognitive, emotional, and behavioral development; effective decision-making skills; and resiliency capabilities of students.

Subp. 2. **Requirements for first professional license.** A candidate for school counselor licensure shall:

A. hold a master's degree or the equivalent from a college or university that is regionally accredited by the association for the accreditation of colleges and secondary schools; and

B. show verification of completing a Board of Teaching preparation program approved under part 8700.7600 leading to the licensure of school counselors in subpart 3 or provide evidence of having completed a preparation program in school counseling accredited by the Council for the Accreditation of Counseling and Related Educational Services.

Subp. 3. **Subject matter standard.** A candidate for licensure as a school counselor must complete a preparation program under subpart 2, item B, that must include the candidate's demonstration of the knowledge and skills in items A to K.

A. A school counselor understands the central concepts, tools of inquiry, and structures of professional school counseling and creates learning experiences that make education meaningful for students. The school counselor must understand:

(1) the major theories, assumptions, professional challenges and ethics, individual and group counseling methods, skills, and techniques that are central to professional school counseling;

(2) basic diagnostic classifications and referral mechanisms of the helping professions;

(3) comprehensive professional school counseling and guidance program development, implementation, management, and evaluation;

(4) the role and function in the total organizational, curricular, and academic structure of the school;

- (5) the organizational structure and changing needs of the school;
- (6) human growth and development;
- (7) individual and group appraisal techniques;
- (8) the need for and ability to demonstrate effective communication and human relations skills;
- (9) social and cultural pluralism and diversity;
- (10) consultation techniques;
- (11) career theories, stages of career development, the changing world of work, school-to-work transitions, and lifestyle development;
- (12) educational, career, and vocational interest assessment techniques and demonstrate the ability to provide accurate interpretations in this regard;
- (13) academic curricular requirements of students in their respective school settings;
- (14) career and academic postsecondary requirements and expectations;
- (15) the special learning challenges facing students including collaboration with special education teams;
- (16) the need for student advocacy, including crisis intervention, suicide prevention and intervention, violence prevention, conflict and disciplinary resolution and mediation, and how to mediate conflict and intervene effectively in conflict management and disciplinary prevention and intervention situations; and
- (17) the integration of services model and coordination with related human services and how to effectively collaborate with human service networks.

B. A school counselor understands how children, youth, and adults learn and develop and provides learning opportunities that support their intellectual, social, and personal development. The school counselor must understand:

- (1) human growth and development as it relates to the selection of appropriate counseling skills and techniques;
- (2) human growth and development as they relate to career and academic development; and
- (3) developmental, cognitive, and affective influences on learning and diverse learning styles as these influences relate to the comprehensive school counseling and guidance program.

C. A school counselor understands how students differ in their approaches to counseling and guidance and creates instructional and counseling opportunities that are adapted to students from diverse cultural backgrounds and with exceptionalities. The school counselor must understand the basis underlying:

- (1) the application of multicultural counseling techniques;
- (2) counseling approaches to students with special learning needs and areas of exceptionality; and
- (3) counseling approaches related to gender.

D. A school counselor understands and uses a variety of instructional and counseling strategies to encourage student development of critical thinking, problem solving, and performance skills. The school counselor must understand:

- (1) the implementation of learning strategies underlying classroom guidance instruction;
- (2) the implementation of learning strategies underlying the provision of mental health curriculum;
- (3) the associative links between instruction, behavior, and learning;
- (4) the associative links between counseling, classroom guidance, and learning;
- (5) the transfer of effective decision-making skills to lifelong learning, academic, and career choices; and
- (6) contemporary guidance and counseling and mental health curricula, programs, and instructional materials.

E. A school counselor applies the understanding of individual and group motivation and behavior to create a counseling and learning environment that encourages positive social interaction, active engagement in learning, and self-motivation. The school counselor must understand:

- (1) interpersonal dynamics in individual and group counseling settings;
- (2) classroom guidance dynamics;
- (3) motivational and learning characteristics, classroom guidance, and mental health curricula; and
- (4) the application of counseling, human development, and career theories to classroom settings.

F. A school counselor uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom. The school counselor must understand:

- (1) theoretical approaches and applications of appropriate counseling communication skills in the individual, group, and classroom settings; and
- (2) diverse counseling communication styles related to culture and gender.

G. A school counselor plans and manages counseling and guidance instruction based upon knowledge of subject matter, students, the community, and guidance curriculum goals. The school counselor must understand:

- (1) curricular components of the comprehensive counseling and guidance program in the school setting;
- (2) the link between school-to-community educational opportunities;
- (3) the link between academic, career, and postsecondary planning and instruction; and
- (4) how to integrate student emotion, behavior, cognition, and decision making in establishing guidance curriculum objectives.

H. A school counselor understands and uses formal and informal assessment strategies to evaluate and ensure continuous intellectual, social, and physical development of the learner. The school counselor must understand:

- (1) the theoretical basis for educational, career, and other assessment techniques and interpretation for which they are appropriately trained;
- (2) the basis for making recommendations to administration regarding testing and assessment in the total school curriculum;
- (3) the principles of using assessment data and interpreting information in academic instruction and the counseling process;
- (4) the ethical, legal, and cultural implications in the use of assessment data in academic instruction and the counseling process; and
- (5) the process and implementation of evaluation of the comprehensive guidance and counseling program as a tool to provide optimum guidance and counseling services to students, parents or guardians, families, staff, and the community.

I. A school counselor is a reflective practitioner who continually evaluates the effects of choices and actions on others and who actively seeks opportunities to grow professionally. The school counselor must understand:

- (1) the historical and philosophical foundations of professional school counseling;
- (2) contemporary and research influences on professional school counseling;
- (3) the professional school counseling literature, research, organizations, and resources available to aid in the effective updating of the comprehensive guidance and counseling program; and
- (4) the importance of self-care in the ability to provide counseling services.

J. A school counselor communicates and interacts with parents or guardians, families, school colleagues, and the community to support student learning and well-being. The school counselor must understand:

- (1) the legal standards particular to professional school counseling;

(2) the ethical standards of relevant professional organizations; and
 (3) professional collaboration, integration of services, and networking processes within the helping professions.

K. The school counselor demonstrates through prepracticum and practicum experiences the ability to provide educational counseling services to students. The practicum experiences must include a series of formal observations and directed instructional experiences with kindergarten or primary, intermediate, middle level, and senior high school students who are participating in a range of educational programming models.

Subp. 4. [Repealed, 25 SR 805]

Subp. 5. **Renewal of professional license.** A professional license shall be renewed according to the rules of the Board of Teaching governing professional licensure.

Subp. 6. **Effective date.** The requirements in this part for licensure as a school counselor for providing school counseling services to students in kindergarten through grade 12 are effective on September 1, 2001, and thereafter.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *23 SR 1928; 25 SR 805*

CONTINUING EDUCATION AND LICENSE RENEWAL

8710.7000 DUTY OF LICENSEE TO RENEW.

It shall be the responsibility of the person seeking the renewal of a continuing or professional teaching license to comply with licensure renewal requirements in part 8710.7100 and to submit the application, appropriate verification, and other supporting materials to the local continuing education/relicensure committee, in accordance with procedures and due dates established by that committee under part 8710.7200.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *25 SR 588*

8710.7100 ISSUANCE AND RENEWAL OF PROFESSIONAL TEACHING LICENSES.

Subpart 1. **Scope.** This part applies to persons who have held entrance licenses and are seeking to obtain first professional licenses or to renew continuing or professional licenses issued by the Board of Teaching, except continuing licenses valid only for substitute teaching.

Subp. 2. **Professional licenses to substitute teach only.** An applicant who holds or has held a valid entrance, continuing, or professional license to teach issued by the Board of Teaching shall be granted a five-year license for short-call substitute teaching. This subpart also applies to an applicant who holds or has held a license to teach issued by another state if that license was issued based on completion of baccalaureate or postbaccalaureate teacher preparation programs.

Subp. 3. **Renewal of professional license.** A license renewal period begins on July 1 of the year of expiration. An application for renewal is accepted for processing by the Department of Education after January 1 of the year of expiration. A valid professional license shall be renewed for a subsequent period of five years when an applicant presents verification by the local continuing education/relicensure committee that the applicant has, within the past five years, successfully completed at least 125 clock hours of professional development as specified in part 8710.7200.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *25 SR 588; L 2003 c 130 s 12*

8710.7200 CLOCK HOURS; REQUIREMENTS FOR RENEWAL OF PROFESSIONAL LICENSES.

Subpart 1. **Definition.** "Clock hour" means an hour of actual instruction, or planned group or individual professional development activity as approved by the local continuing education/relicensure committee.

Subp. 2. **Renewal clock hours.** Verification by the local continuing education/relicensure committee that the applicant has completed 125 approved clock hours is required for renewal. Instruction and professional development activities meet requirements to renew licenses only if they address one or more of the standards in part 8710.2000. Effective for renewal of professional licenses which expire on June 30, 2001, and after, applicants must include in their 125 clock hours instruction or other professional development activities which address positive behavioral intervention strategies and accommodation, modification, and adaptation of curriculum, materials, and instruction to appropriately meet the needs of varied students in achieving graduation standards. Effective for renewal of professional licenses which expire on June 30, 2004, and after, applicants must also include in their 125 clock hours instruction or other professional development activities which evidence further reading preparation, consistent with Minnesota Statutes, section 122A.06, subdivision 4. Effective for renewal of professional licenses which expire on June 30, 2005, and after, applicants must also include in their 125 clock hours instruction or other professional development activities which address further preparation in understanding the key warning signs of early-onset mental illnesses in children and adolescents which may include depressed mood, excessive fears and anxieties, changes in behavior and performance, failure to develop peer relationships, impaired concentration and thinking, suicidal gestures, the potential connection to substance use, and knowledge of steps to be taken if such warning signs are observed.

Subp. 3. **Categories for clock hour allocation.** Verification of completion of experiences must be submitted by the applicant to the local committee. Clock hours must be earned in two or more of the categories in items A to I:

- A. relevant coursework completed at accredited colleges and universities;
- B. educational workshops, conferences, institutes, seminars, or lectures in areas appropriate to licenses held;
- C. staff development activities, inservice meetings, and courses;
- D. site, district, regional, state, national, or international curriculum development;
- E. engagement in formal peer coaching or mentorship relationships with colleagues that addresses one or more of the standards in part 8710.2000;
- F. professional service in the following areas:
 - (1) supervision of clinical experiences of persons enrolled in teacher preparation programs;
 - (2) participation on national, state, and local committees involved with licensure, teacher education, or professional standards; or
 - (3) participation in national, regional, or state accreditation;
- G. leadership experiences in the following areas:
 - (1) development of new or broader skills and sensitivities to the school, community, or profession;
 - (2) publication of professional articles in a professional journal in an appropriate field; or
 - (3) volunteer work in professional organizations related to the areas of licensure held;
- H. opportunities to enhance knowledge and understanding of diverse educational settings in the following areas:
 - (1) experiences with students of another age, ability, culture, or socioeconomic level; or
 - (2) systematic, purposeful observation during visits to schools and to related business and industry; and
- I. preapproved travel or work experience:
 - (1) travel for purposes of improving instructional capabilities related to the field of licensure; or
 - (2) work experience in business or industry appropriate to the field of licensure.

Subp. 4. **Maximum allocation.** Effective for all experiences completed after June 30, 2000, the local continuing education/relicensure committee shall grant clock hours on the following basis:

A. Relevant coursework under subpart 3, item A, must be granted 16 clock hours for each quarter credit earned, and 24 clock hours for each semester credit earned.

B. Successful completion of activities under subpart 3, items B to I, must be granted one clock hour for each hour of participation with the following exceptions:

(1) Supervision of clinical experiences of persons enrolled in teacher licensure programs for one quarter equals 16 clock hours or one semester equals 24 clock hours. No more than 30 clock hours may be granted in a five-year relicensure period for supervision.

(2) One week of preapproved travel or work experience for purposes of improving instructional capabilities equals ten clock hours. No more than 30 clock hours may be granted in a five-year relicensure period for travel or work experience. The limit of 30 clock hours may be waived when the local committee determines that the preapproved travel or work experience is critical to the teacher's advanced or current skills for the teacher's assignment; for example, travel to experience language or cultural immersion by a teacher of world language.

Subp. 5. **Exception for national board certification.** A local continuing education committee shall accept verification that a teacher is actively engaged in and making progress toward National Board of Professional Standards Certification or other national professional teaching certification approved by the Board of Teaching at the time of renewal as equivalent to fulfilling all clock hour requirements for continuing license renewal. A local continuing education committee shall accept verification that a teacher has earned National Board or other approved certification as equivalent to all clock hour requirements during the life of the certificate. If the certificate expires during the five-year renewal period, the local committee shall prorate hours completed under this exception and require completion of a prorated number of clock hours for the years the certificate is not in effect.

Subp. 6. **Exception for local option.** The Board of Teaching shall approve requests submitted by local committees that, through their school district master contracts or other official agreements between the local school board and its teachers, wish to substitute development and implementation of individualized professional development plans for some or all of the clock hour requirements for renewal of continuing licenses, provided that each individualized professional development plan:

A. is designed primarily to enhance the teacher's ability to effect increased student learning;

B. focuses on standards in part 8710.2000 and specific content knowledge required for the teacher's assignment;

C. includes management and monitoring of student learning, including positive behavioral interventions and adaptation and modification of curriculum, instruction, and assessment to assist varied student learners in achieving graduation standards;

D. includes a focus on research-based best practice;

E. identifies the procedures and criteria by which successful development and implementation of the individualized professional development plan will be validated and communicated with the local continuing education committee; and

F. requires that each teacher's individualized professional development plan equal or exceed 125 hours of professional development activities during the five-year period.

Subp. 7. **Experience for clock hour credit.** Except for subpart 3, item H, subitem (1), teaching experiences for which licensure is required shall not qualify for clock hour credit.

Subp. 8. **Period for earning clock hours.** An applicant requesting renewal of a license to teach must earn a minimum of 125 clock hours during each five-year period preceding application for licensure renewal. An applicant may not bank clock hours for purposes of relicensure, but clock hours earned after an application for renewal has been submitted may be applied to the next renewal period.

Subp. 9. **School staff development.** Instruction and professional development activities provided by a school may be included among the clock hours in this part.

Subp. 10. **Renewal of license for two or more areas.** An applicant who seeks renewal of a continuing license for two or more areas should allocate at least 30 clock hours to each of the licensure areas for a total of no fewer than 125 clock hours, with priority given to work in areas where the candidate is employed during the licensure period. An applicant who holds an administrative license or licenses may allocate clock hours for the renewal of teaching licensure under this subpart.

Subp. 11. **Denial of clock hours.** A local committee shall not grant clock hours for experiences that are primarily for personal rather than professional improvement or for experiences that duplicate other granted clock hour experiences without new or enhanced professional development value.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *25 SR 588; 26 SR 1512; 29 SR 897*

8710.7300 LOCAL COMMITTEES FOR CONTINUING EDUCATION AND RE-LICENSURE.

Subpart 1. **Membership.** A local committee is established in each Minnesota public school district with membership as follows:

A. Five persons licensed by the Board of Teaching who hold at least a baccalaureate degree, to be elected by the licensed teaching faculty. Nominations may be by building, grade level, or other appropriate categories, provided that all eligible persons have a fair and equitable chance for nomination. Proportionate representation is encouraged.

B. One licensed person who holds an administrator's license, representing the elementary and secondary administration, to be elected by the licensed practicing administrators employed by the district.

C. One resident of the district who is not an employee of the district, to be designated by the local school board. School board members are not considered to be employees of the district.

Subp. 2. **Notice of election; election.** All members of an appropriate voting group shall be notified of the date of the election at least five days prior to the election. The election shall be held at a convenient time and place and shall be by secret ballot.

Members of the local committee shall be elected in May of each year for terms to begin no later than the following September 1. The term of office of members of the local committee shall be two years.

Subp. 3. **Continuing education committee.** In districts where either teachers or administrators with the specified qualifications are not available for service on the local committee, the superintendent will report the situation to the Board of Teaching who shall make special provisions for establishing a continuing education committee.

Subp. 4. **Organizational meeting.** The local committee shall hold its organizational meeting no later than September of each year. At the organizational meeting the local committee shall elect a chair and secretary whose duties shall be established by the local committee.

Subp. 5. **School district assistance.** Release time or a per diem stipend may be provided by the local school district to each local committee member to attend local committee meetings.

Clerical assistance and supplies as requested by the local committee may be provided by the local school district in sufficient amount to enable the local committee to comply with the record keeping and reporting required.

Subp. 6. **Quorum; calling meetings.** A quorum shall be more than 50 percent of the total voting membership of the committee. A majority vote of those voting members present shall be sufficient to take action. Meetings may be called by the chair of the committee or by written request of three or more of the members. Notice of meetings shall be provided to each member of the committee at least five days prior to the date of the meeting, and shall be

posted or otherwise advertised in such a manner as to provide reasonable notice to those teachers subject to the actions of the committee.

Subp. 7. **Duties.** The duties of the local committee are as follows:

A. Set procedures for its own operation:

(1) establish written guidelines which include time, place, and procedures for local committee meetings; and procedures for local committee operations, including a procedure for emergency approval during periods when the committee is not regularly meeting;

(2) make the guidelines available to persons interested in or affected by decisions of the local committee, together with a list of the current local committee membership; and

(3) hold a hearing annually to allow the teachers in the district to review proposed or revised guidelines established by the local committee.

A working draft of local guidelines and proposed revisions shall be made available prior to the local hearing.

The local committee shall schedule the hearing at a time and place which is convenient for those interested in or affected by the guidelines to be able to attend.

Adequate and proper notice shall be given to all such persons within the district.

All local committee members should be present at the hearing.

The hearing shall continue until all persons who wish to speak have had an opportunity to do so.

Although input received at the hearing is not binding, the local committee is encouraged to modify its guidelines, insofar as modifications are consistent with chapters 8700 and 8710, if the information received during the hearing indicates that changes are necessary or desirable.

B. Provide recommendations to the Board of Teaching for the renewal of teaching licenses:

(1) Make recommendations regarding the issuance of the first continuing license by verifying one year of successful teaching experience for individuals on an entrance license. Successful teaching shall be determined by satisfying one or more of the following three criteria: a teacher receives an offer of a contract for the ensuing year; a teacher gains tenure or acquires a continuing contract; or supportive evidence is presented from supervisory personnel, professional colleagues, and/or administrators.

This experience shall be verified by the local committee chair or designee, whose name shall be on file with the Board of Teaching.

(2) Act, within a reasonable time, upon requests for recommendation for renewal of the continuing license by determining whether the applicant has met the requirements for renewal in part 8710.7100.

(3) Endorse the application for first issuance or renewal of the continuing license of each qualified applicant. The applicant shall assume the responsibility for forwarding the endorsed application to the Department of Education.

(4) Provide supporting evidence to the Board of Teaching when a decision of the local committee is appealed.

C. Forward to the Board of Teaching the following information according to the due dates in this rule:

(1) Prior to November 1 of each year, verification of the current membership of the local committee.

(2) Prior to receiving approval from the Board of Teaching to operate as a local committee, a copy of the published local committee guidelines. At the time that substantial changes are made in local guidelines, a revised copy of these guidelines shall be forwarded to the Board of Teaching.

(3) During February of each year, any recommendations for modifications of state continuing licensure renewal requirements, based upon an evaluation of procedures and criteria or granting clock hours.

D. Provide those services and reports that may be required from time to time by the Board of Teaching.

E. Provide recommendations to appropriate personnel concerning the in-service needs of the district.

Subp. 8. Transfer of clock hours. If a licensed person under the jurisdiction of one local committee moves to the jurisdiction of a different local committee during a renewal period, clock hours already earned and granted during that renewal period are transferred to the new local committee. Clock hours shall be accepted by that committee.

Subp. 9. Grantor of clock hours. Clock hours shall be granted by the committee of the district where the applicant was employed at the time that the experience was completed.

Persons who have not been or are not currently employed by a school will be granted clock hours in either of the following ways:

A. by the local committee of the district where the applicant was last employed; or

B. by the local committee of the district where the applicant currently resides, if accepted by the local committee.

Subp. 10. Renewal for persons not continually employed in Minnesota. Persons who have never been employed on a continuing basis by a school district in Minnesota shall affiliate with the local committee in the district in which they reside.

Subp. 11. Renewal for out-of-state residents. A person residing out of Minnesota who wishes to maintain continuing Minnesota licensure may make application for renewal to the Board of Teaching according to parts 8710.7100 and 8710.7300.

Subp. 12. Rule information. The board of teaching shall provide each local committee with current Board of Teaching rules which pertain to licensure.

Subp. 13. Option for formation of joint local committees. Two or more districts situated in close proximity to each other shall have the option of joining together to establish a joint local committee.

A plan for two or more districts to formulate a joint local committee shall be drawn up by a committee consisting of two teachers, one administrator, and one school board member or a designee, from each participating district, and be ratified by at least 70 percent of the licensed personnel employed by each participating district. The plan shall provide for fair representation of all licensed personnel.

The ratified plan shall be submitted by the superintendent of the district employing the largest number of licensed personnel to the Board of Teaching.

The joint local committee shall be treated as any local committee and shall comply with parts 8700.0900 to 8700.2000 and 8710.7300 to 8710.7700.

Subp. 14. Local committees in school district consortia and Department of Education.

A. Licensed personnel employed by a Minnesota public school district consortium that is authorized by Minnesota statutes or a consortium of charter schools may establish a local committee for the same purpose as local committees established by public school districts. The Department of Education may establish a local committee to serve licensed teachers who work for state government.

B. When possible, the committees authorized in item A shall be established according to subpart 1. The committees shall function in the same manner as provided for committees of public school districts and in a way that provides fair representation for all licensed personnel and objective evaluation of requests for renewal of licenses. Duties of the committee and criteria for granting clock hours shall be identical to those for committees of public school districts.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *12 SR 412; 14 SR 165; 7 SR 1279; L 1998 c 397 art 11 s 3; 25 SR 588; L 2003 c 130 s 12*

8710.7400 LOCAL COMMITTEES IN NONPUBLIC SCHOOLS.

Subpart 1. Nonpublic school only. Licensed personnel in a nonpublic school may establish a local committee for the same purpose as local committees established by public

school districts. Licensed personnel in two or more nonpublic schools may combine to form a local committee upon the agreement of 70 percent of the licensed personnel in each school. The chair of the committee shall submit to the Board of Teaching, on an annual basis no later than November 1 of each year, verification of the membership of the committee and verification of the school or schools whose personnel have established the committee.

Subp. 2. Nonpublic and public schools. Licensed personnel in one or more nonpublic schools may join with an appropriate public school district in the establishment of a local committee, provided that 70 percent of the licensed personnel from each nonpublic school and 70 percent of the licensed personnel employed by the public school district agree to such a committee. The superintendent of the district shall submit to the director of licensing verification of the membership of the committee and verification of the nonpublic schools whose personnel have joined in the establishment of the committee.

Subp. 3. Committee conduct. Insofar as possible, the committees authorized in subparts 1 and 2 shall be established and shall function in the same manner as provided for committees of public school districts and in such way as to provide fair representation for all licensed personnel and objective evaluation of requests for renewal of licenses. Duties of the committee and criteria for granting clock hours shall be identical to those for committees of public school districts.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *17 SR 1279; L 1998 c 397 art 11 s 3; 25 SR 588*

8710.7500 LOCAL COMMITTEE OF COLLEGE OR UNIVERSITY.

A college or university approved to prepare teachers for licensure in education may form a local committee or combine with other approved colleges or universities to form joint committees. Licensed personnel in approved colleges or universities may affiliate with a local committee established in a local school district or nonpublic school. Duties of the committee and criteria for granting clock hours shall be identical to those for committees of public school districts.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *L 1998 c 397 art 11 s 3; 25 SR 588*

8710.7600 RIGHT OF APPEAL.

Subpart 1. Appeal to local committee. When an applicant has not been granted the requested number of clock hours by a local continuing education/relicensure committee, an appeal may be made to the local committee. An applicant must appeal to the local committee within 20 working days after notification of the decision of the local committee. Failure to file a written request with the local committee for an appeal within 20 working days constitutes a waiver of the individual's right to appeal.

Subp. 2. Appeal to Board of Teaching. Decisions by a local committee for continuing education/relicensure denying the appeal may be appealed to the Board of Teaching by the applicant according to part 8710.0900.

Subp. 3. Nonendorsement of application by local committee. In cases where the applicant has not been granted the required number of clock hours for relicensure, local committees shall not endorse the application for renewal of the continuing license.

Subp. 4. Licensure extension during appeal. The Board of Teaching shall extend the previous continuing license until all avenues of administrative appeal have been exhausted.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *12 SR 412; L 1998 c 397 art 11 s 3; 23 SR 1928; 25 SR 588*

8710.7700 REVIEW OF LOCAL COMMITTEE FUNCTIONS.

The Board of Teaching shall review the compliance of the local committees with parts 8710.7300, 8710.7400, and 8710.7500, as applicable, at least once in each five-year period beginning in the 2000 calendar year.

Statutory Authority: *MS s 122A.09; 122A.18; 125.05; 125.185*

History: *L 1998 c 397 art 11 s 3; 25 SR 588*

TEACHERS OF CAREER AND TECHNICAL EDUCATION

8710.8000 CORE SKILLS FOR TEACHERS OF CAREER AND TECHNICAL EDUCATION.

Subpart 1. **Licensure requirements.** A candidate recommended for licensure in career and technical education shall complete the core skill area licensure requirements in subpart 2 as part of each career and technical education preparation program approved under part 8700.7600.

Subp. 2. **Core skill areas.** A teacher of career and technical education has direct practical experience as an employee in an occupation within the scope of the licensure field and possesses the understandings and skills in career and technical education foundations, processes, and instructional design and teaching in items A to E.

A. A teacher of career and technical education understands the philosophy and practice of the field in the secondary education system. The teacher must:

- (1) identify, apply, and evaluate the current state and federal legislation related to career and technical education;
- (2) know how to involve advisory committees, labor, business, and community organizations in the delivery of a comprehensive career and technical education system;
- (3) identify and analyze future demographic trends and their implications for career and technical education; and
- (4) provide instructional settings and programs, including classroom, laboratory, and work and community-based settings that are safe, equitable, and maintain appropriate behavioral norms and relationships among participants.

B. A teacher of career and technical education understands curriculum development and course construction. The teacher is able to:

- (1) design course content comprised of competency-based, contextual learning that contributes to academic knowledge, higher-order reasoning and problem-solving skills, personal and work attitudes, SCANS skills, technical skills including occupation-specific skills, and career exploration and development; and
- (2) develop a strategy for the inclusion of leadership development in such activities as student organizations in career and technical education.

C. A teacher of career and technical education understands safe and appropriate methods of instruction. The teacher can:

- (1) teach safe use of tools, equipment, materials, and processes in career and technical education learning environments;
- (2) demonstrate career and technical education expertise including essentials of craftsmanship, visualization skills, spatial relationships, mechanical aptitude, and successful employment; and
- (3) identify, develop, analyze, use, evaluate, and interpret a variety of assessment tools and measures that demonstrate student attainment of graduation, industry, and occupational skill standards.

D. A teacher of career and technical education understands career development theory and practice. The teacher can:

- (1) assist students in understanding the variety and nature of technical careers;
- (2) provide students opportunities to explore careers;
- (3) assist students in evaluating the potential of careers for them as individuals using sound decision-making processes;
- (4) promote students' understanding of the importance of preparation for career change and the need for lifelong learning; and
- (5) assist students in developing their job seeking and job keeping skills and their career portfolios.

E. A teacher of career and technical education understands management of special learning environments. The teacher can:

(1) utilize fiscal, budgetary, purchasing, and inventory control practices to organize and equip special learning environments, including shops and community-based construction sites; and

(2) maintain laboratories and equipment to ensure a safe learning environment that provides for efficient use of student instructional time.

Subp. 3. **Program requirements.** An institution applying to the Board of Teaching for approval to prepare teachers under parts 8710.8010 to 8710.8080 shall incorporate the requirements of this part in each preparation program.

Statutory Authority: *MS s 122A.09*

History: 26 SR 700

8710.8010 TEACHERS OF COMMUNICATIONS TECHNOLOGY CAREERS.

Subpart 1. **Scope of practice.** A teacher of communications technology careers is authorized to provide students in grades 7 through 12 instruction that is designed to develop an effective understanding of current communications technology core skills standards through instruction including the following areas:

- A. academic foundations specific to communications technology;
- B. standard safety practices in communications technology;
- C. professional responsibilities in communications technology;
- D. communications technology careers exploration and investigation;
- E. effects of communications technology; and
- F. applications of production skills in communications technology.

Subp. 2. **Licensure requirements.** A candidate for licensure as a teacher of communications technology careers shall have completed at least a baccalaureate degree from a regionally accredited college or university and a teacher preparation program approved under part 8700.7600 including:

- A. the standards of effective practice under part 8710.2000;
- B. the core skills for teachers of career and technical education under part 8710.8000; and
- C. the standards under subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of communications technology careers must complete a preparation program under subpart 2 that includes the candidate's demonstration of the knowledge and skills listed in items A to F.

A. A teacher of communications technology careers must demonstrate the knowledge and applications of the academic subject matter required for proficiency in the following areas:

- (1) apply knowledge of systems specific to the communications technology careers;
- (2) technical reading and writing using charts, manuals, and journals;
- (3) match math activities to communications technology careers processes;
- (4) create and interpret representations of specifications used in communications technology careers;
- (5) use and interpret technical terminology specific to communications technology careers; and
- (6) awareness of emerging products and technologies as related to communications technology careers.

B. A teacher of communications technology careers must demonstrate the knowledge and applications of safety and environmental concerns and policies issued by federal, state, and local regulatory agencies including:

- (1) Occupational Safety and Health Administration (OSHA) rules; and
- (2) Minnesota Pollution Control Agency regulations.

C. A teacher of communications technology careers must demonstrate knowledge and application of legal responsibilities and ethical practices including:

(1) policies issued by federal, state, and local regulatory agencies, such as copyright laws, rating systems, filters/censorship systems, and mandatory reporting;

(2) employee protection procedures, such as the "Right to Know" regulations; and

(3) the management and use of resources, such as: staff policies and procedures, budgets, and training opportunities.

D. A teacher of communications technology careers must demonstrate knowledge by:

(1) describing potential communications technology career pathways;

(2) describing the levels of education, licensing/certification requirements, employment opportunities, workplace environments, and career growth potential for a specific communications technology career;

(3) utilizing personal occupational experiences to make communications technology careers meaningful to the students; and

(4) facilitating work-based learning opportunities including job shadowing, internships, and apprenticeship programs.

E. A teacher of communications technology careers must demonstrate the impact of:

(1) how the products, services, and applications may affect various behavior changes;

(2) the range of products, services, and applications available to employers and customers;

(3) quality control and improvement processes as they relate to customer satisfaction;

(4) past and present effects on the environment, socioeconomic status, and nontraditional technology systems; and

(5) the management and use of resources.

F. A teacher of communications technology careers must demonstrate the skills necessary to:

(1) envision, design, select, and use materials and resources to create, assemble, and deploy a finished product;

(2) problem solve, troubleshoot, maintain, repair, and operate equipment; and

(3) estimate and bid products and services.

Subp. 4. **Professional license.** A professional license shall be issued and renewed according to the rules of the Board of Teaching governing licensure.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *26 SR 700; 30 SR 1054*

8710.8020 TEACHERS OF CONSTRUCTION CAREERS.

Subpart 1. **Scope of practice.** A teacher of construction careers is authorized to provide students in grades 7 through 12 instruction that is designed to develop an effective understanding of construction careers including:

A. academic foundations specific to the construction field;

B. construction systems and issues;

C. planning and management in construction;

D. construction career exploration and investigation; and

E. safety and environmental practices in the construction field.

Subp. 2. **Licensure requirements.** A candidate for licensure as a teacher of construction careers shall have completed at least a baccalaureate degree from a regionally accredited college or university and a teacher preparation program approved under part 8700.7600 including:

- A. the standards of effective practice under part 8710.2000;
- B. the core skills for teachers of career and technical education under part 8710.8000; and
- C. the standards under subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of construction careers must complete a preparation program under subpart 2 that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of construction careers must demonstrate the knowledge and applications of the academic subject matter required for proficiency within the following areas:

- (1) knowledge of math and measurement;
- (2) skill in technical reading and writing;
- (3) knowledge of geography and the environment as it relates to decision making and planning;
- (4) construction terminology/vocabulary; and
- (5) scientific principles in the planning and construction process.

B. A teacher of construction careers must demonstrate the knowledge and applications of construction systems and issues including:

- (1) use of materials;
- (2) methods/processes in construction;
- (3) use and maintenance of tools and equipment;
- (4) understanding of subsystems, such as electrical, plumbing, heating, and landscaping; and
- (5) awareness of emerging products and technologies, such as air quality, energy conservation, and computer-controlled systems.

C. A teacher of construction careers must demonstrate knowledge and application of planning, management, and business operation techniques in:

- (1) scheduling of work crews and tasks;
- (2) financial aspects, such as securing financing, project estimating, and bidding procedures;
- (3) management of human and material resources;
- (4) understanding and interpreting construction documents, such as project plans, schedules, charts, graphs, and change orders; and
- (5) understanding and application of energy and building codes.

D. A teacher of construction careers must demonstrate knowledge of the construction career clusters in the areas of:

- (1) potential career paths found in the construction industry;
- (2) levels of education, licensing/certification requirements, employment opportunities, and workplace environments including team work and potential career growth;
- (3) work-based learning opportunities including job shadowing, internships, and apprenticeship programs;
- (4) labor organizations and their impact on the construction trades; and
- (5) utilizing personal occupational experiences to make construction careers meaningful to the students.

E. A teacher of construction careers must demonstrate knowledge and application of safety and environmental practices including:

- (1) use of tools and equipment;
- (2) personal safety concerns including body mechanics and ergonomics;
- (3) first aid procedures and universal precautions;
- (4) use of energy sources, such as natural gas and electricity;
- (5) Environmental Protection Agency (EPA) regulations, such as proper material disposal, indoor air quality, and lead and asbestos abatement;

- (6) Occupational Safety and Health Administration (OSHA) regulations;
- (7) material safety data sheets (MSDS) adhering to hazardous labeling requirements; and
- (8) safety signs, symbols, and labels.

Subp. 4. **Professional license.** A professional license shall be issued and renewed according to the rules of the Board of Teaching governing professional licensure.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *26 SR 700; 30 SR 1054*

8710.8030 TEACHERS OF MANUFACTURING CAREERS.

Subpart 1. **Scope of practice.** A teacher of manufacturing careers is authorized to provide students in grades 7 through 12 instruction that is designed to develop an effective understanding of the following areas:

- A. academic foundations specific to the manufacturing field;
- B. standard safety and environmental practices;
- C. manufacturing career exploration and investigation;
- D. industry skills standards for manufacturing technology; and
- E. ethics and legal responsibilities in manufacturing.

Subp. 2. **Licensure requirements.** A candidate for licensure as a teacher of manufacturing careers shall have completed at least a baccalaureate degree from a regionally accredited college or university and a teacher preparation program approved under part 8700.7600 including:

- A. the standards of effective practice under part 8710.2000;
- B. the core skills for teachers of career and technical education under part 8710.8000; and
- C. the standards under subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of manufacturing careers must complete at least a baccalaureate degree from a regionally accredited college or university and a preparation program under subpart 2 that must include the candidate's demonstration of the knowledge and skills in items A to E.

A. A teacher of manufacturing careers must demonstrate the knowledge and applications of academic subject matter required for proficiency in the following areas:

- (1) knowledge of math and science to manufacturing situations within specific manufacturing careers;
- (2) technical reading and writing in a manufacturing environment such as creating and interpreting graphs, charts, manuals, journals, and specifications;
- (3) problem solving in mathematical applications such as equations, formulas, and processes; and
- (4) applying manufacturing terminology for communication with co-workers, customers, and employers.

B. A teacher of manufacturing careers must demonstrate knowledge and application of safety principles according to the rules and regulations of:

- (1) the Occupational Safety and Health Administration (OSHA);
- (2) the Environmental Protection Agency (EPA); and
- (3) the material safety data sheets (MSDS).

C. A teacher of manufacturing careers must demonstrate knowledge and application of manufacturing careers by:

- (1) describing potential manufacturing careers;
- (2) describing the levels of education, licensing/certification requirements, employment opportunities, workplace environments, potential salaries, and career growth potential; and
- (3) utilizing personal occupational experiences to make manufacturing careers meaningful to the students.

D. A teacher of manufacturing careers must demonstrate the knowledge and ability of the processes used to take a blueprint and manufacture a product from beginning to end using industry standards. These processes include:

(1) general processes for manufacturing technology include: blueprint reading, layout techniques, hand tool processes/identifications, measurement techniques, metallurgy, sawing techniques, abrasive processes, drilling techniques, quality control, jigs, fixtures and fasteners, accreditation/certification, laser processes, water cutting, robotics, fluid power systems, foundry processes, sheet metal processes, forging processes, and plastic technologies;

(2) specific processes for machine trades including: precision measurement techniques, milling processes, turning processes, forming processes, precision grinding, numerical control, plastics/laminates processes, electrical discharge machining processes, stereo-lithography, tool and cutter grinding, computer aided drafting (CAD), computer aided machining (CAM), and geometric tolerancing; and

(3) specific processes for welding trades including: electrical polarities, electrode classifications, plasma arc cutting (ARC), oxy. fuel cutting (OFC), automatic cutting processes, gouging processes, oxy, acetylene welding (OAW), shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux core arc welding (FCAW), gas tungsten arc welding (GTAW), submerged arc welding (SAW), plasma arc welding (PAW), hard facing processes, and weld testing (nondestructive/destructive).

E. A teacher of manufacturing careers must demonstrate knowledge and application of legal responsibilities and ethical practices in manufacturing including:

(1) morality and ethics and the relationship of each to manufacturing occupations, such as falsifying documents;

(2) legal and policy issues impacting manufacturing industries, such as errors and omissions, negligence liabilities, and environmental issues and concerns;

(3) understanding the importance of customer satisfaction, such as on-time delivery and quality control;

(4) employee protection documents, such as the Right to Know regulations; and

(5) requirements for reporting and documentation of any activity that adversely affects the welfare of customers and fellow workers, such as incident reports and hazardous material spills.

Subp. 4. **Professional license.** A professional license shall be issued and renewed according to the rules of the Board of Teaching governing licensure.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *26 SR 700; 30 SR 1054*

8710.8040 TEACHERS OF MEDICAL CAREERS.

Subpart 1. **Scope of practice.** A teacher of medical careers is authorized to provide students in grades 7 through 12 instruction that is designed to develop an effective understanding of the National Health Care Skills Standards in the following areas:

A. academic foundations specific to the medical field;

B. health care systems and issues;

C. medical communication;

D. ethics and legal responsibilities in health care;

E. medical/health career exploration and investigation; and

F. standard safety and infection control practices.

Subp. 2. **Licensure requirements.** A candidate for licensure as a teacher of medical careers shall possess or have possessed licensure or certification to practice in a medical career, direct practical experience as a medical professional, and have completed at least a baccalaureate degree from a regionally accredited college or university and a teacher preparation program approved under part 8700.7600 including:

A. the standards of effective practice under part 8710.2000;

B. the core skills for teachers of career and technical education under part 8710.8000; and

C. the standards under subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of medical careers must complete a preparation program under subpart 2 that must include the candidate's demonstration of the knowledge and skills in items A to F.

A. A teacher of medical careers must demonstrate the knowledge and applications of the academic subject matter required for proficiency in the following areas:

- (1) knowledge of life sciences such as biology, chemistry, physics, and human growth and development to client care situations within specific medical careers;
- (2) reading and writing in health care situations, such as case studies, medical charts, manuals, and journals;
- (3) mathematical operations, such as computations for drug and fluid dosages and assessment of client condition; and
- (4) health care terminology for interstaff communication and interpretation of information to clients.

B. A teacher of medical careers must demonstrate the knowledge and applications of health care delivery systems and issues including:

- (1) where and how factors, such as cost, managed care, technology, an aging population, access to care, alternative therapies, and how lifestyle/behavior changes may affect various health care delivery systems;
- (2) the range of services available to clients;
- (3) delivery of health care to diverse groups in a variety of situations;
- (4) quality improvement processes as they relate to client outcomes;
- (5) effects on the health care system caused by past and present influences of technology, epidemiology, bioethics, socioeconomics, and other various forms of complementary (nontraditional) medicine; and
- (6) the use of medical facility resources, such as staff, policy and procedure manuals, and training opportunities.

C. A teacher of medical careers must demonstrate the knowledge and applications of the various methods of giving and obtaining information including:

- (1) interpreting, transcribing, and communicating information, data, and observations using medical terminology within various health care situations;
- (2) reporting subjective and objective client information in relevant order of occurrence; and
- (3) using decision-making models within the context of problem solving in the health care environment.

D. A teacher of medical careers must demonstrate knowledge and application of legal responsibilities and ethical practices in health care, including:

- (1) morality and ethics and the relationship of each to health care outcomes;
- (2) legal and policy issues impacting health care, such as malpractice, negligence, and liability;
- (3) the primacy of client confidentiality;
- (4) patient protection documents, such as the Client Bill of Rights and the Vulnerable Adults Protection Act; and

(5) requirements for reporting and documentation of any activity that adversely affects the welfare of clients or fellow workers, such as incident reports, medication, or treatment errors.

E. A teacher of medical careers must demonstrate knowledge of the diagnostic, therapeutic, environmental, and informational medical career clusters by:

- (1) describing potential health career paths and ladders in occupations found in aforesaid clusters;
- (2) describing the levels of education, licensing/certification requirements, employment opportunities, workplace environments, and career growth potential for a specific medical career; and

(3) utilizing personal occupational experiences to make medical careers meaningful to the students.

F. A teacher of medical careers must demonstrate knowledge and application of safety principles and infection control practices including:

(1) standard precautions as described in the rules and regulations of the Occupational Safety and Health Administration (OSHA);

(2) infection control procedures;

(3) safety procedures to protect clients, co-workers, and self;

(4) body mechanics and ergonomics;

(5) environment modification to create safe conditions in the health care setting;

(6) methods of fire prevention and response;

(7) material safety data sheets (MSDS) and adhering to hazardous labeling requirements;

(8) safety signs, symbols, and labels;

(9) facility evacuation plan; and

(10) emergency plan in response to a natural disaster or other unusual incident.

Subp. 4. **Professional license.** A professional license shall be issued and renewed according to the rules of the Board of Teaching governing licensure.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *26 SR 700; 30 SR 1054*

8710.8050 TEACHER OF CREATIVE DESIGN CAREERS.

Subpart 1. **Scope of practice.** A teacher of creative design careers is authorized to provide students in grades 7 through 12 instruction that is designed to develop an in-depth understanding and application of the knowledge and skills required in creative design careers including:

A. textiles and apparel careers; and

B. housing, interiors, and furnishings careers.

Subp. 2. **Licensure requirements.** A candidate for licensure as a teacher of creative design careers shall have completed at least a baccalaureate degree from a regionally accredited college or university and a teacher preparation program approved under part 8700.7600 including:

A. the standards of effective practice under part 8710.2000;

B. the core skills for teachers of career and technical education under part 8710.8000; and

C. the standards under subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of creative design careers must complete a preparation program under subpart 2 that must include the candidate's demonstration of the knowledge and skills in items A and B:

A. A teacher of creative design careers must demonstrate the knowledge, skills, and application of the following subject matter standards:

(1) apply textiles and apparel design skills, such as color and textile analysis, flat pattern design, draping design, and construction;

(2) possess a comprehensive understanding of the history of fashion and design and its impact on current trends in textiles and apparel industry;

(3) apply textile and apparel industry standards to production, alteration, and repair of textile products or apparel, fashion/fabric merchandising, and production of commercial, institutional, and residential textile products;

(4) evaluate the elements of textiles and apparel merchandising, such as customer service, fashion trends, cost effectiveness, marketing, and merchandise display;

(5) demonstrate operational procedures specific to business profitability and career success in textiles and apparel;

(6) incorporate fashion, apparel, textile career opportunities and activities, such as job shadowing, simulated work experiences, internships, apprenticeships, and student organizations into the curriculum;

(7) describe and analyze career paths and ladders in textiles and apparel careers and utilize personal occupational experiences to make textiles and apparel careers meaningful to students; and

(8) describe the levels of education, licensing or certification requirements, employment opportunities, workplace environments, and career growth in textiles and apparel careers.

B. A teacher of creative design careers must demonstrate the knowledge, skills, and application of the following subject matter standards:

(1) understand the influences which impact housing, interior, and furnishing industries, such as social, economic, cultural, urban, suburban, and rural, and their relationship to client's needs;

(2) evaluate housing decisions based on client's needs, goals, options, and resources to create design plans for commercial and residential environments, such as home, office, health care, hospitality, institutions, and retail;

(3) evaluate products used in housing, interiors, and furnishings to meet specific needs, such as physical disabilities, health conditions, and geographical location;

(4) understand the current industry standards used in housing, interiors, and furnishings;

(5) demonstrate computer-aided drafting design, blueprint reading, and space planning skills required in the housing, interiors, and furnishings industry;

(6) demonstrate design ideas through visual presentation;

(7) demonstrate operational procedures for housing, interiors, and furnishings business profitability and career success;

(8) incorporate housing, interiors, and furnishings career opportunities and activities such as job shadowing, simulated work experiences, internships, apprenticeships, and student organizations into the curriculum;

(9) describe and analyze career paths and ladders in housing, interiors, and furnishings careers;

(10) utilize personal occupational experiences to make housing, interiors, and furnishings careers meaningful to students; and

(11) describe the levels of education, licensing/certification requirements, employment opportunities, workplace environments, and career growth in housing, interiors, and furnishings careers.

Subp. 5. Professional license. A professional license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *26 SR 700; 30 SR 1054*

8710.8060 TEACHER OF EARLY CHILDHOOD CAREERS.

Subpart 1. Scope of practice. A teacher of early childhood careers is authorized to provide students in grades 7 through 12 instruction that is designed to develop an in-depth understanding and application of the knowledge and skills in:

A. academic foundations specific to early childhood careers;

B. administration of early childhood programs;

C. operational procedures of early childhood programs; and

D. early childhood career exploration and investigation.

Subp. 2. Licensure requirements. A candidate for licensure as a teacher of early childhood careers shall have completed at least a baccalaureate degree from a regionally accredited-

ited college or university and a teacher preparation program approved under part 8700.7600 including:

- A. the standards of effective practice under part 8710.2000;
- B. the core skills for teachers of career and technical education under part 8710.8000; and
- C. the standards under subpart 3.

Subp. 3. Subject matter standard. A candidate for licensure as a teacher of early childhood careers must complete a preparation program under subpart 2 that must include the candidate's demonstration of the knowledge and skills in items A to D:

A. A teacher of early childhood careers must demonstrate the knowledge and applications of the academic subject matter required for proficiency. The teacher must:

- (1) understand and apply the theories of age and stage development of children prenatal through adolescence including an understanding of exceptionalities;
- (2) understand the theory of child psychology and its application through learning, creative, cognitive, physical, language, self-help, and social activities;
- (3) analyze and apply developmentally appropriate practices (National Association for the Education of Young Children NAEYC) to plan for early childhood programs;
- (4) demonstrate appropriate observation techniques; and
- (5) define standards of accreditation in early childhood programs and services.

B. A teacher of early childhood careers must demonstrate the knowledge and applications of program administration. The teacher must:

- (1) possess a comprehensive understanding of the federal, state, and local laws governing programs in early childhood;
- (2) guide students in establishing a safe and healthy learning environment when working with children, families, educational systems, or community agencies;
- (3) demonstrate techniques for positive collaborative relationships when working with children, families, educational systems, or community agencies; and
- (4) integrate the specific needs and interests of children and families throughout developmental stages in a variety of educational and community settings.

C. A teacher of early childhood careers must demonstrate the knowledge and applications of operational procedures. The teacher must:

- (1) understand the ethics and legal responsibilities of working with multidisciplinary systems, such as parents, children, medical services, educational systems, legal systems, and community services;
- (2) perform and teach the appropriate procedures regarding health and safety, nutrition, and food preparation on a daily basis;
- (3) demonstrate an understanding of the learning environment, such as equipment, room arrangement, activity schedules, and its potential effect on the program, children, staff, and parents;
- (4) model effective use of verbal and nonverbal communication techniques when working with parents, children, staff, educational systems, and community agencies; and
- (5) understand the mandatory reporting responsibilities, such as abuse and harassment, in regard to working with children.

D. A teacher of early childhood careers must demonstrate the knowledge and skills in the career field of early childhood to:

- (1) describe and analyze career paths and ladders in early childhood careers;
- (2) utilize personal occupational experiences to make early childhood careers meaningful to students;
- (3) describe the levels of education, licensing/certification requirements, employment opportunities, workplace environments, and career growth potential for a specific early childhood career; and

(4) incorporate early childhood career opportunities and activities, such as job shadowing, simulated work experiences, internships, apprenticeships, and student organizations into the curriculum.

Subp. 4. **Professional license.** A professional license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *26 SR 700; 30 SR 1054*

8710.8070 TEACHER OF HOSPITALITY SERVICE CAREERS.

Subpart 1. **Scope of practice.** A teacher of hospitality service careers is authorized to provide students in grades 7 through 12 instruction that is designed to develop an in-depth understanding and application of the knowledge and skills required in food preparation/production and service, food science/nutrition, tourism/recreation, and facilities management/maintenance.

Subp. 2. **Licensure requirements.** A candidate for licensure as a teacher of hospitality service careers shall have completed at least a baccalaureate degree from a regionally accredited college or university and a teacher preparation program approved under part 8700.7600, including:

- A. the standards of effective practice under part 8710.2000;
- B. the core skills for teachers of career and technical education under part 8710.8000; and
- C. the standards under subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of hospitality careers must complete a preparation program under subpart 2 that must include the candidate's demonstration of the knowledge and skills in items A to D.

A. A teacher of hospitality service careers must be able to demonstrate the knowledge, skills, and applications of the following academic subject matter standards:

- (1) an understanding of bacteriology/food sanitation hygiene and its impact on the production and serving of food;
- (2) an understanding of the current theories and trends in food science and nutrition and their impact on food preparation/production and service;
- (3) the use of specific food service industry and government standards to design the layout of food service facilities;
- (4) the use of appropriate techniques in food production and service, such as quantity food purchasing, cost control, food preparation, and new product development;
- (5) an understanding of how food service impacts the tourism industry, such as its nature, growth, and development;
- (6) an understanding of the coordination techniques of planning activities, events, and convention functions; and
- (7) an understanding of and the use of the principles of small business management involved in tourism/recreation management, food preparation/production, service, and facilities management/maintenance.

B. A teacher of hospitality service careers must be able to demonstrate the knowledge, skills, and applications of administration including:

- (1) use of record keeping and accounting in the hospitality service industry, such as food preparation/production and service, tourism/recreation management, and facilities management/maintenance;
- (2) promotion and use of environmental, security, and safety/sanitation procedures as they pertain to food service, hospitality, tourism/recreation, and facilities management/maintenance;
- (3) selection, use, and maintenance of specialized equipment used in food preparation/production, hospitality, tourism/recreation, and facilities management/maintenance; and

(4) use of industry skill standards in food service, food preparation/production, tourism/recreation, and facilities maintenance.

C. A teacher of hospitality service careers must be able to demonstrate the knowledge, skills, and applications of operational procedures including:

(1) the use of appropriate communication skills to foster positive relationships when working in food service, hospitality, tourism/recreation, and facilities management/maintenance;

(2) a comprehensive understanding of federal, state, and local laws, federal regulations, and state rules governing the hospitality service industries, such as food preparation/production and service, tourism/recreation, and facilities management/maintenance; and

(3) the use of concepts of production and service to meet customer needs and expectations.

D. A teacher of hospitality service careers must demonstrate the knowledge and skills in the career fields of food preparation/production and service, food science/nutrition, tourism/recreation, and management/maintenance of facilities to:

(1) describe and analyze career paths and ladders in hospitality service careers;

(2) utilize personal occupational experience to make food preparation/production and service, food science/nutrition, tourism/recreation, and facilities management/maintenance careers meaningful to students;

(3) describe the levels of education, licensing/certification requirements, employment opportunities, workplace environments, and career growth potential in hospitality service careers; and

(4) incorporate hospitality service career opportunities and activities, such as job shadowing, simulated work experiences, internships, apprenticeships, and student organizations into the curriculum.

Subp. 4. **Professional license.** A professional license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *26 SR 700; 30 SR 1054*

8710.8080 TEACHERS OF TRANSPORTATION CAREERS.

Subpart 1. **Scope of practice.** A teacher of transportation careers is authorized to provide students in grades 7 through 12 instruction that is designed to develop an effective understanding of the National Transportation Core Skills Standards.

Subp. 2. **Licensure requirements.** A candidate for licensure as a teacher of transportation careers shall have completed a teacher preparation program approved under part 8700.7600 including:

A. the standards of effective practice under part 8710.2000;

B. the core skills for teachers of career and technical education under part 8710.8000; and

C. the standards under subpart 3.

Subp. 3. **Subject matter standard.** A candidate for licensure as a teacher of transportation careers must complete at least a baccalaureate degree from a regionally accredited college or university and a preparation program under subpart 2 that must include the candidate's demonstration of the knowledge and skills in items A to F.

A. A teacher of transportation careers must demonstrate the knowledge and applications of the academic subject matter required for proficiency within the following areas:

(1) apply knowledge of electricity, electronics, chemistry, and physics specific to the transportation industry;

(2) match measurement activities to transportation processes;

(3) create and interpret graphs, charts, manuals, journals, and specifications used in transportation; and

(4) use and interpret technical terminology specific to transportation industries.

B. A teacher of transportation careers must demonstrate the knowledge and applications of safety and environmental concerns and issues including:

- (1) Occupational Safety and Health Administration (OSHA) rules;
- (2) Minnesota Pollution Control Agency regulations;
- (3) transportation regulatory agencies, such as the Department of Transportation and Federal Aviation Administration; and
- (4) the use of first aid resources, such as staff, policy and procedure manuals, and training opportunities regarding acids, fuels, and chemicals.

C. A teacher of transportation careers must demonstrate knowledge and application of legal responsibilities and ethical practices in transportation, including:

- (1) morality and ethics and the relationship of each to transportation occupations, such as falsifying documents and service work orders;
 - (2) legal and policy issues impacting transportation industries, such as errors and omissions, negligence liabilities, environmental issues, and concerns;
 - (3) understanding the importance of customer satisfaction, such as avoiding comebacks, warranty work, and doing unauthorized services;
 - (4) employee protection documents, such as the Right to Know Regulations;
- and

(5) requirements for reporting and documentation of any activity that adversely affects the welfare of customers and fellow workers, such as incident reports and hazardous material spills.

D. A teacher of transportation careers must demonstrate the knowledge and applications of the various methods of giving and obtaining information including:

- (1) interpreting, transcribing, and communicating information, data, and observations using transportation terminology;
- (2) reporting subjective and objective customer information in relevant order of occurrence, such as work orders and cost estimates; and
- (3) using decision-making models within the context of problem solving in the transportation industry, such as diagnostic flow charts and weight and balance calculations.

E. A teacher of transportation careers must demonstrate knowledge of alternative careers within the industry by:

- (1) describing potential transportation career paths and ladders in occupations found in the transportation careers, such as land, air, water, and space;
- (2) describing the levels of education, licensing or certification requirements, employment opportunities, workplace environments, and career growth potential for a specific transportation career; and
- (3) utilizing personal occupational experiences to make transportation careers meaningful to the students.

F. A teacher of transportation careers must demonstrate the knowledge and applications of transportation systems and issues including:

- (1) where and how factors, such as cost, technology, alternative methods, and how lifestyle or behavior changes may affect various transportation systems;
- (2) the range of services and technology applications available to employers and customers, such as the Internet and wireless communications;
- (3) quality improvement processes as they relate to customer outcomes, through the use of new technologies, tools, methods, and equipment; and
- (4) effects on the transportation systems caused by past and present influences of technology, environmental, socioeconomics, and other various forms of non-traditional transportation.

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Subp. 4. **Professional license.** A professional license shall be issued and renewed according to the rules of the Board of Teaching governing continuing licensure.

Statutory Authority: *MS s 122A.09; 122A.18*

History: *26 SR 700; 30 SR 1054*