NEBRASKA DEPARTMENT OF EDUCATION

TO: Roger Breed, Ed.D.
Commissioner of Education

FROM: Sharon Katt, Administrator
Adult Program Services

SUBJECT: Revision to Rule 24 (92 NAC 24), "Regulations for Certificate Endorsements"

Proposed Board Action:

Approve a hearing draft of proposed revisions to the Rule 24 (92 NAC 24), "Regulations for Certificate Endorsements," and authorize the Commissioner to set a date, time, and place for the hearing, and to appoint a hearing official to conduct a hearing on behalf of the State Board.

Background Information:

The Nebraska Council on Teacher Education (NCTE), with the input of ad hoc committees, has completed revision work on the following 10 endorsements, if approved, will become effective August 1, 2013.

1. Superintendent
2. Biology
3. Chemistry
4. Earth and Space Science
5 Physics
6. Science
7. Mathematics
8. Speech-Language Pathology
9. Speech Language Technician
10. Coaching (Special Services)

Estimated Cost:

Approximately $1,000 is spent on hearing notices and printing of the Revised Rule and associated Guidelines.

Supporting Documentation Included:

The following documents will serve as supporting documentation for both the work session and the Board meeting.
Rule 24 draft
Change Summary
Guidelines to accompany proposed endorsement changes in Rule 24 (for information only - the Guidelines do not go through the Public Hearing process).

For Additional Information on this item:

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TITLE 92 – NEBRASKA DEPARTMENT OF EDUCATION
CHAPTER 24 – CERTIFICATE ENDORSEMENTS

001 Alphabetical List of Endorsements Contained in this Chapter

ADMINISTRATIVE ENDORSEMENTS
Curriculum Supervisor
Principal
Superintendent
TEACHING ENDORSEMENTS
Adapted Physical Education
Agricultural Education
American Sign Language (Subject)
American Sign Language (Supplemental)
Anthropology
Art
Assessment Leadership
Basic Business
Bilingual Education
Biology
Business, Marketing, and Information Technology (BMIT)
Career Education ~~(formerly Other Trade or Industrial Areas)~~
Chemistry
Coaching
Cooperative Education – Diversified Occupations
Driver Education
Early Childhood Education
Early Childhood Education Unified
Earth and Space Science
Economics
Elementary Education
English
English As A Second Language
Family and Consumer Sciences
General Art
Geography
Health Education
Health and Physical Education
Health Occupations
High Ability Education
History
Horticulture Education
Industrial Technology Education
Information Technology
Instructional Technology Leadership
Instrumental Music
Journalism and Mass Communications
Language Arts
Mathematics

Middle Grades Education
Music
~~Natural Science~~
Physical Education
~~Physical Science~~
Physics
Political Science
Preschool Disabilities
Psychology
Reading and Writing
Reading Specialist
Religious Education
Reserve Officer Training Corps (ROTC)
School Counselor
School Librarian ~~(formerly Library Media Specialist)~~
School Psychologist ~~(formerly a Special Services Endorsement)~~
Science (formerly Natural Science)
Skilled and Technical Science Education
Social Science
Sociology
Special Education
- Behaviorally Disordered
- Deaf or Hard of Hearing/Field
- Deaf or Hard of Hearing/Subject
- Early Childhood Special Education
- Learning Disabilities
- Mild/Moderate Disabilities
- Severe/Multiple Disabilities
- Visual Impairment

Speech
Speech and Theatre
Speech-Language Pathologist
Theatre
Vocal Music
Vocational Special Needs
World Language

SPECIAL SERVICES ENDORSEMENTS

Educational Audiologist
School Nurse
School Transition Specialist
Speech Language Technician
Coaching

Appendix A

002 General Information.

002.01 Statutory Authority. This chapter is adopted pursuant to Section 79-808 of the Nebraska Revised Statutes (R.R.S.).

002.02 Scope and Application. This chapter contains regulations for obtaining endorsements indicating grade levels and areas of specialization on Nebraska teaching, administrative, and special services certificates.

002.03 Related Chapters. Throughout this chapter, reference is made to other Department regulations relating to teachers, administrators, and special services providers. Regulations for the issuance of certificates to teach, administer, and provide special services in Nebraska schools are contained in Title 92, Nebraska Administrative Code, Chapter 21 (92 NAC 21) Title 92, Nebraska Administrative Code, Chapter 23 (92 NAC 23) contains regulations concerning the basic skills competency testing of teacher education students. Title 92, Nebraska Administrative Code, Chapter 20 (92 NAC 20) contains the rules for the approval of professional education programs in Nebraska. Copies of these rules are available from the Department.

002.04 Implementation Date. Regardless of the effective date of the approval of this chapter, the implementation date will be August 1, 201~~2~~3. Colleges and persons seeking endorsements must meet these requirements after this date. Prior to that implementation date, the provisions of this chapter, as approved with an effective date of May ~~11~~7, 201~~0~~2 shall remain in effect.

003 Definition of Terms. As used in this chapter:

003.01 American Sign Language (ASL) shall mean a natural language indigenous to members of the American Deaf Community, with its own culture, literature, and linguistic structure.

003.02 Approved Endorsement Program shall mean endorsement programs approved pursuant to 92 NAC 20 or any endorsement program approved in any other state or country pursuant to standards comparable and equivalent to 92 NAC 20.

003.03 Board shall mean the Nebraska State Board of Education.

003.04 Certification Officer shall mean a faculty or staff member designated by the chief academic officer or unit administrator of each standard institution of higher education with an approved educator preparation program to receive correspondence regarding this Chapter from the Department and to provide certified records, transcripts, reports and/or

recommendations to the Department, as required, for the purpose of certification and/or endorsement.

003.05 Clinical experiences shall mean those that are characterized by careful planning, stipulated goals, required activities, projected performance levels and evaluation of growth. Examples of clinical experiences are microteaching clinics, unit teaching associated with a methodology class, and skill clinics. Activities not meeting the criteria for clinical experiences include general observations, voluntary community service, orientation visits, teacher aiding, and periodic visitations to educational settings.

003.06 Commissioner shall mean the Nebraska State Commissioner of Education.

003.07 Credit hour shall mean the equivalent of 15 instructional class periods of 50 minutes or more. Semester hour has the same meaning as credit hour.

003.08 Department shall mean the State Department of Education, which is comprised of the Board and the Commissioner.

003.09 Endorsement shall mean an area of specialization indicated on a certificate issued pursuant to 92 NAC 21 signifying that the individual has met specific requirements contained in this chapter.

003.10 English as a Second Language (ESL) shall mean a program designed to serve students whose dominant language is not English to become proficient in English through instruction predominantly provided in English to the students.

003.11 Field (used as a descriptor of an endorsement) shall mean two or more subjects which, considered as a single area of study, represent a wider and broader scope than that of a subject.

003.12 Field-based experiences shall mean those that are conducted at a school site, school administration center, school clinic, or community agency, etc. These experiences include classroom observations, tutoring, assisting school administrators or teachers, as well as participation in school and community-wide activities. Planning shall be shared by the professional education unit and the appropriate agency.

003.13 Internship shall mean an experience supervised by a qualified professional who holds a certificate or has qualifications comparable to that of a certificate holder. The internship provides opportunities to practice and demonstrate the knowledge and skills of the specialization area in a setting that is similar to the setting in which the candidate intends to work. Internship

differs from student teaching in that it is only applicable to graduate level and supplemental endorsements.

003.14 Practicum shall mean an extensive experience in which education students practice professional skills and knowledge. Both student teaching and internships are examples of a practicum.

003.15 Regular Certificate shall mean an initial, standard or professional certificate, or a comparable and equivalent certificate as defined in 92 NAC 21.

003.16 Semester Hour shall mean the equivalent of 15 instructional class periods of 50 minutes or more. Credit hour has the same meaning as semester hour.

003.17 Standard Institution of Higher Education means any college or university, the teacher education programs of which are fully approved by the Board or approved in another state pursuant to standards which are comparable and equivalent to those set by the board.

003.18 Student teaching shall mean a full time, directed teaching experience conducted in a school setting that provides supervised opportunities to practice and demonstrate over a continuous, extended time period (as required by 92 NAC 20) the unique knowledge and skills of teaching in the endorsement area(s).

003.19 Subject (used as a descriptor of an endorsement) shall mean a specific course or narrow range of courses taught and offered in a school.

003.20 Supplemental (used as a descriptor of an endorsement) shall mean an endorsement which cannot exist by itself on a certificate but is added to a certificate only in the presence of other endorsements which may or may not be specified.

003.21 Teaching experience shall mean employment as a certified employee for the instruction of students in an approved or accredited school.

004 Application Procedures.

004.01 Initial Endorsement. When an applicant applies for his or her teaching, administrative, or special services certificate pursuant to 92 NAC 21, he or she will be required to file documentation indicating that he or she has met the requirements of this chapter for one or more endorsements (depending upon the requirements of 92 NAC 21 for the type of certificate and the type of endorsements), to file an application and pay the fee provided for in 92 NAC 21. Such documentation shall be on forms provided by or

accepted by the Department and shall show that such requirements were met in approved endorsement programs.

004.02 Additional Endorsements. Additional endorsements may be added to a certificate at any time upon the payment of the fee provided for in 92 NAC 21 and the filing of documentation on forms provided by the Department that clearly show that the endorsement requirements and student teaching experience requirements, if applicable, of this chapter have been met in approved endorsement programs.

004.02A Applicants applying for additional subject or field endorsements have no additional student teaching requirement if the endorsement is for the same grade level as endorsement(s) already held on the certificate. If it is for a different level, the applicant must meet half of the 14 week student teaching requirement through student teaching or internship.

004.03 Provisional Endorsements. Individuals holding a regular Nebraska certificate may apply to add one provisional endorsement as follows:

004.03A Completing an application and payment of the statutory fee as required under 92 NAC 21, and submitting documentation on forms provided by the Department showing that they have completed 50 percent of the endorsement credit hour requirement in an approved endorsement program; and

004.03B Submitting a signed and dated form provided by the Department listing the courses to be completed for the endorsement that is verified by the certification officer of a Nebraska standard institution of high education.

This provisional endorsement cannot be renewed and will expire on August 31 of the third year following issuance.

004.04 Provisional Special Education Endorsement. Individuals holding a regular Nebraska certificate may apply to add a provisional special education endorsement as follows:

004.04A Completing an application and payment of the statutory fee as required under 92 NAC 21;

004.04B Submitting on forms provided by the Department from the employing Nebraska school system, as defined in 92 NAC 21, requesting the issuance of the provisional special education endorsement;

004.04C Submitting an official transcript from a standard institution of higher education that demonstrates at least three (3) semester hours of coursework has already been completed for the provisional special education endorsement; and

004.04D Submitting a signed and dated form provided by the Department from a Nebraska standard institution of higher education which documents that the applicant has established a plan for completion of coursework leading to a regular special education endorsement, including completion of a minimum of 18 hours during the three (3) years for which the provisional endorsement is valid.

The provisional special education endorsement shall expire August 31 in the third year following issuance and may be renewed for an additional three (3) years if the individual completes at least 18 credit hours as set forth in Section 004.04D.

004.05 Duration of Endorsements.

004.05A Endorsements, once granted, continue in effect so long as the holder maintains a certificate in force, or until revoked or amended pursuant to state law or regulation.

004.05B Provisional endorsements continue for three (3) years.

004.05C Provisional special education endorsements continue for three (3) years.

004.05D If an endorsement is amended through changes to this Chapter but the title remains the same, current holders of that endorsement will continue to have that endorsement in effect for their current and future certification. If an endorsement is no longer contained in this chapter because it has been repealed or the title and requirements have changed, the following provisions apply:

004.05D1 If a comparable existing endorsement is listed for such former endorsement in Appendix A of this Chapter, the certificate holder will be considered to hold such comparable endorsement for purposes of determining school or school district compliance with approval or accreditation requirements under Chapters 10 or 14 of this Title, and for purposes of the requirements of any other chapter of this Title. At the time of future recertification, the new certificate will carry the comparable endorsement.

004.05D2 If no comparable endorsement is listed in Appendix A, the endorsement shall be considered non-existent for purposes of Department regulations.

004.06 Revocation of Endorsements. Endorsements shall be revoked for any of the following reasons:

004.06A Revocation of the certificate.

004.06B Fraud, misrepresentation, or error.

004.06C Written request by the endorsed person to the Commissioner and the Commissioner determines that the person has no employment experience and no college credit in the endorsed area within ten (10) years prior to the written request.

004.06D Elimination of the endorsement by the Board as shown in Appendix A.

004.06E Replacement of the endorsement by the Board with another endorsement as shown in Appendix A.

004.07 Hearings and Appeals. All actions taken by the Department under the provisions of this chapter may be subject to appeal under the appeals procedure contained in 92 NAC 21.

004.08 Certification of Completion of Endorsement Requirements. Certification officers shall be required, as a condition of institution approval pursuant to 92 NAC 20, to certify for the Department the completion of endorsement requirements as specified in this chapter as part of endorsement applications.

005 Administrative Endorsements.

005.01 Curriculum Supervisor.

005.01A Grade Levels: PK-12

005.01B Endorsement Type: Field/Administrative

005.01C Persons with this endorsement may assist in or supervise the development of curriculum programs for students in pre-kindergarten through grade 12.

005.01D Certification Endorsement Requirements: The curriculum supervisor endorsement shall require a minimum of 36 graduate semester hours.

005.01E Additional Requirements: The applicant for admission to the program of studies leading to this endorsement must:

005.01E1 Have a valid regular teaching certificate,

005.01E2 Have completed two (2) years of teaching experience in an approved or accredited school system or school, and

005.01E3 Be officially admitted to the program following institutional screening to determine the candidate's suitability as a supervisor of curriculum.

005.01F Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

005.02 Principal.

005.02A Grade Levels: PK-12, PK-8, or 7-12

005.02B Endorsement Type: Field/Administrative

005.02C Persons with this endorsement may serve in all general administrative and supervisory capacities in Nebraska schools as a principal at the grade levels for which the program preparation was completed.

005.02D Certification Endorsement Requirements: This endorsement shall require 36 or 45 graduate semester hours of credit in an approved program in educational administration. Thirty-six (36) graduate semester hours are required if the principal endorsement is at the same level as the teaching endorsement. Those seeking a principal endorsement at a level different from their teaching endorsement must complete a minimum of nine (9) additional credit hours. The focus of the additional nine (9) credit hours must be specific to the new level.

005.02D1 The applicant for this endorsement shall have two (2) years of teaching experience in an approved/accredited elementary, middle, and/or secondary schools.

005.02D2 Internship/Field-Based Experiences: This endorsement requires 250 clock hours of internship/ field-based experiences in approved or accredited elementary, middle, or secondary schools. These hours must be completed at the level(s) for the endorsement(s) being sought.

005.02E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

005.03 Superintendent~~.~~

005.03A Grade Levels: PK-12

005.03B Endorsement Type: Field/Administrative

005.03C Persons with this endorsement may serve in all general administrative and supervisory capacities in Nebraska schools as superintendent, principal, or other administrative roles at all levels.

005.03D Certification Endorsement Requirements: This endorsement requires a minimum of 60 graduate semester hours (beyond the baccalaureate degree) in educational administration, completion of a specialist or doctoral program in an education administration program developed for the preparation of a superintendent, and a one-semester ~~practicum~~ internship in an approved or accredited school system.

005.03D1 The applicant for this endorsement must qualify for a regular teaching certificate and an administrative certificate and have two (2) years of teaching experience.

005.03E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

005.03E1 The applicant shall be admitted to the program of

studies leading to this endorsement following a screening process which includes (1) a review of transcripts, (2) three letters of recommendation from people who know of the candidate's work, (3) successful completion of a qualifying examination as identified by the standard institution, and (4) a written statement from the candidate outlining his/her professional goals ~~for seeking a superintendency~~.

006 Teaching Endorsements.

006.01 Adapted Physical Education.

006.01A Grade Level: PK-12

006.01B Endorsement Type: Supplemental endorsement only. To qualify for this endorsement, the applicant shall have or earn concurrently, one of the following endorsements: Health and Physical Education, Physical Education, or one of the Special Education endorsements.

006.01C Persons with this endorsement may teach physical education to children and youth in Pre-Kindergarten through grade 12 who have unique needs or verified disabilities. Persons with this endorsement may provide consultant services to teachers of students with unique needs or verified disabilities.

006.01D Certification Endorsement Requirements: This endorsement shall require a minimum of 24 semester hours of coursework. Applicants may apply up to 12 semester hours of coursework completed as part of a subject or field endorsement in Physical Education or Special Education toward requirements of this endorsement. The hours shall include the following:

006.01D1 Coursework in special education – six (6) semester hours;

006.01D2 Coursework in the content areas of physical education instruction – six (6) semester hours;

006.01D3 A minimum of 12 semester hours in adapted physical education courses.

006.01E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the

course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.02 Agricultural Education.

006.02A Grade Levels: 6 – 12

006.02B Endorsement Type: Field

006.02C Persons with this endorsement may teach and manage an agricultural education program and will be eligible for the Cooperative Education/Diversified Occupations endorsement.

006.02D Certification Endorsement Requirements: This endorsement shall require a minimum of 48 semester hours of agriculture subject matter plus work experience including:

006.02D1 A minimum of 12 semester hours in agricultural education which includes principles/foundations of career education and supervision of work-based learning; and

006.02D2 A minimum of 36 semester hours from the areas of: Agribusiness Systems; Animal Systems; Environmental Service Systems; Food Products and Processing Systems; Natural Resources Systems; Plant Systems; and Power, Structural, and Technical Systems, including leadership, research, applied technology, and policy within the aforementioned systems.

006.02D3 Work Experience: The endorsement is only available to those persons who have (A) 1000 verified hours of work experience in the agriculture food, and natural resources career area, or (B) at least 300 hours of supervised employment in the agriculture food, and natural resources career(s), under the direction of the college or university recommending the endorsement.

006.02E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.03 American Sign Language. (Subject)

006.03A Grade Levels: K-8, 7-12, or K-12

006.03B Endorsement Type: Subject

006.03C Persons with this endorsement may teach American Sign Language (ASL) at the grade level(s) for which they have been prepared.

006.03D Certification Endorsement Requirements: This endorsement requires a minimum of 30 semester hours of ASL content coursework.

006.03D1 Practicum. Prospective teachers shall be engaged in practicum experience at the level(s) of endorsement.

006.03E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.04 American Sign Language. (Supplemental)

006.04A Grade Levels: K-8, 7-12, or K-12

006.04B Endorsement Type: Supplemental endorsement only. This endorsement requires an applicant to hold or earn concurrently a subject or field endorsement.

006.04C Persons with this endorsement may teach American Sign Language (ASL) at the grade level(s) for which they have been prepared.

006.04D Certification Endorsement Requirements: This endorsement shall require a minimum of 18 semester hours of coursework in ASL content.

006.04D1 Practicum. Prospective teachers shall be engaged in practicum experiences at the level(s) of endorsement.

006.04E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.05 Anthropology.

006.05A Grade Levels: 7-12

006.05B Endorsement Type: Subject

006.05C Persons with this endorsement may teach anthropology in grades 7 through 12.

006.05D Certification Endorsement Requirements: This endorsement requires a minimum of 36 semester hours including 30 semester hours in anthropology and six (6) semester hours in one or more of the other social sciences areas (Economics, Geography, History, Political Science, Psychology, and/or Sociology).

006.05E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement. The courses shall incorporate the Nebraska social studies/history content standards found in 92 NAC 10 into the curriculum as applicable to the grade level endorsement.

006.06 Art.

006.06A Grade Levels: K-12

006.06B Endorsement Type: Field

006.06C Persons with this endorsement may organize and teach art learning experiences for students in kindergarten through grade 12.

006.06D Certification Endorsement Requirements: The endorsement shall require 52 semester hours in art. This shall include coursework which addresses preparation for teaching art to kindergarten, elementary, middle school, and secondary-aged students.

006.06E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.07 Assessment Leadership.

006.07A Grade Levels: PK-12

006.07B Endorsement Type: Supplemental

006.07C Persons with this endorsement may assist in or facilitate the development of assessment programs for students in Pre-Kindergarten through grade 12.

006.07D Certification Endorsement Requirements: The endorsement shall require a minimum of 18 graduate semester hours that shall include the following:

006.07D1 Three (3) semester hours in the study of district, state, and national assessment.

006.07D2 Three (3) semester hours in the study of classroom-based assessment.

006.07D3 Three (3) semester hours of field-based experiences related to Sections 006.07D1 and 006.07D2.

006.07D4 Six (6) semester hours in the study of leadership and collecting, analyzing, reporting, and using data for instructional improvement.

006.07D5 Three (3) semester hours of field-based experiences related to all aspects of Section 006.07D4.

006.07D6 The applicant for admission to the program of studies leading to this endorsement must have a valid teaching or administrative certificate and two (2) years of teaching experience.

006.07E Endorsement Program Requirements: Nebraska education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.08 Basic Business.

006.08A Grade Levels: 6-12

006.08B Endorsement Type: Subject

006.08C Persons with this endorsement may teach basic business education courses in grades 6 through 12.

006.08D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 semester hours in business administration and information technology systems of which a minimum of six (6) semester hours must be in information technology systems coursework.

006.08E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.09 Bilingual Education.

006.09A Grade Levels: K-6, 4-9, 7-12

006.09B Endorsement Type: Supplemental endorsement only. This endorsement requires an applicant to hold or earn concurrently an English as a Second Language (ESL) endorsement in addition to a subject or field endorsement.

006.09C Persons with this endorsement may teach in a bilingual program in the grade levels for which they are prepared.

006.09D Certification Endorsement Requirements: This endorsement shall require a minimum of 12 semester hours of coursework related to methodology, content instruction, and content literacy in bilingual education programs which includes nine (9) credit hours of coursework taught in the target language.

006.09D1 Candidates must also complete a 45 clock hour practicum in a bilingual education program taught in the target language at the grade level(s) of the endorsement being sought.

006.09E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.10 Biology~~.~~

006.10A Grade Levels: 7-12

006.10B Endorsement Type: Subject

006.10C Persons with this endorsement may teach any biology course in grades 7 through 12.

006.10D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 semester hours of laboratory based courses in the natural sciences (biology, chemistry, ~~e~~Earth and space science, and physics), of which 24 semester hours must be in biology and a minimum of 12 semester hours of laboratory based courses among the remaining three natural sciences areas. A laboratory-based course provides activity-based, hands-on experience for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.

006.10E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.11 Business, Marketing, and Information Technology.

006.11A Grade Levels: 6-12

006.11B Endorsement Type: Field

006.11C Persons with this endorsement may teach all business, marketing, and information technology education courses and will be eligible for the Cooperative Education/Diversified Occupations endorsement.

006.11D Certification Endorsement Requirements: This endorsement shall require a minimum of 48 semester hours, including:

006.11D1 24 semester hours in business administration;

006.11D2 Nine (9) semester hours in marketing;

006.11D3 12 semester hours in information technology systems;

006.11D4 Three (3) semester hours in the principles of career education and supervision of work-based learning; and

006.11D5 Work Experience: The endorsement is available only to those who have either (A) 1000 verified hours of volunteer, internship, or paid work experience; or (B) at least 300 hours of supervised work experience under the direction of the college or university recommending the endorsement.

006.11E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.12 Career Education.

006.12A Grade Levels: 9 -12

006.12B Endorsement Type: Subject

006.12C The endorsement shall be valid only for a career education area where no preparation program is offered by an approved teacher training institution in Nebraska or for which a school system submits documentation that it has not found a qualified teacher for the career education teaching certificate.

006.12D This endorsement shall require:

006.12D1 Completion of a prescribed course of study in a career education area at the postsecondary level, or

006.12D2 Completion of an apprenticeship program in the career education area, or

006.12D3 Demonstrated proficiency in the career education area based upon five (5) years of practice in the career area, or

006.12D4 Demonstrated proficiency by passing a competency examination approved by the industry or career education area, or

006.12D5 Current employment by a community college as an instructor to teach the career education area.

006.13 Chemistry~~.~~

006.13A Grade Levels: 7-12

006.13B Endorsement Type: Subject

006.13C Persons with this endorsement may teach any chemistry course in grades 7 through 12.

006.13D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 semester hours of laboratory based courses in the natural sciences (biology, chemistry, ~~e~~Earth and space science, and physics), of which 24 semester hours must be in chemistry and a minimum of 12 semester hours of laboratory based courses among the remaining three natural sciences areas. A laboratory-based course provides activity-based, hands-on experience for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.

006.13E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.14 Coaching.

006.14A Grade levels: 7-12

006.14B Endorsement Type: Supplemental endorsement only. This endorsement requires an applicant to have, or earn concurrently, a subject or field endorsement.

006.14C Persons with this endorsement may coach interscholastic athletic events for participants in grades 7 through 12.

006.14D Certification Endorsement Requirements: This endorsement requires a minimum of 12 semester hours of coursework related to coaching athletics, including prevention, care and management of injuries; growth, development and learning; psychology of coaching; and coaching theory. Other courses related to coaching athletics such as legal aspects and responsibilities; training and conditioning; nutrition; and administration of sports shall be used to fulfill any remaining coaching semester hours.

006.14E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the

course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.15 Cooperative Education – Diversified Occupations.

006.15A Grade Levels: 9-12

006.15B Endorsement Type: Supplemental endorsement only. This endorsement requires an applicant to have, or earn concurrently, an endorsement in a subject or field.

006.15C Persons with this endorsement may coordinate, teach, and supervise programs of instruction that develop career and life skills.

006.15D Certification Endorsement Requirements: This endorsement shall require a minimum of six (6) semester hours in principles of career education and supervision of work-based learning.

006.15E Work Experience: This endorsement is available only to those who have either (A) 1,000 verified hours of volunteer, internship, or paid work experience, or (B) at least 300 hours of supervised work experience under the direction of the college or university recommending the endorsement.

006.15F Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.16 Driver Education.

006.16A Grade Levels: 7-12

006.16B Endorsement Type: Supplemental endorsement only. This endorsement requires an applicant to hold or earn concurrently a subject or field endorsement.

006.16C Persons with this endorsement may teach driver education to students in grades 7 through 12.

006.16D Certification Endorsement Requirements: The endorsement requires a minimum of nine (9) semester credit hours in courses that address traffic safety, general safety, first aid, motor vehicle systems, and alcohol and drug education.

006.16E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.17 Early Childhood Education.

006.17A Grade Levels: Birth through Grade 3

006.17B Endorsement Type: Subject

006.17C Persons with this endorsement are prepared to teach children from birth through grade 3 including those with disabilities as defined in Section 79-1118.01 R.R.S.

006.17D Certification Endorsement Requirements: The endorsement shall require 30 semester hours in early childhood education.

006.17E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.18 Early Childhood Education Unified.

006.18A Grade Levels: Birth - Grade 3

006.18B Endorsement Type: Field

006.18C Persons with this endorsement may teach infants, toddlers, and children from birth through grade 3 including those with disabilities as defined in Section 79-1118.01 R.R.S, and to support families and other personnel with responsibilities for their care and education.

006.18D Certification Endorsement Requirements: The endorsement shall require a minimum of 45 semester hours of courses that include knowledge of Early Childhood Education and Special Education.

006.18E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement must have on file,

within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.19 Earth and Space Science~~.~~

006.19A Grade Levels: 7-12

006.19B Endorsement Type: Subject

006.19C Persons with this endorsement may teach any ~~e~~Earth and space science course in grades 7 through 12.

006.19D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 semester hours of laboratory based courses in the natural sciences (biology, chemistry, ~~e~~Earth and space science, and physics), of which 24 semester hours must be in ~~e~~Earth and space science and a minimum of 12 semester hours of laboratory based courses among the remaining three natural sciences areas. A laboratory-based course provides activity-based, hands-on experience for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.

006.19E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.20 Economics.

006.20A Grade Levels: 7-12

006.20B Endorsement Type: Subject

006.20C Persons with this endorsement may teach economics in grades 7 through 12.

006.20D Certification Endorsement Requirements: This endorsement requires a minimum of 36 semester hours including 30 hours in economics and six (6) semester hours in one or more of the other social sciences areas (Geography, History, Political Science, Psychology, and/or either Anthropology or Sociology).

006.20E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement. The courses shall incorporate the Nebraska social studies/history content standards found in 92 NAC 10 into the curriculum as applicable to the grade level endorsement.

006.21 Elementary Education.

006.21A Grade levels: K-6 (K-8 in self-contained classrooms)

006.21B Endorsement Type: Field

006.21C Persons with this endorsement may teach children in all elementary subjects in kindergarten through grade 6 in all schools; and in grades 7 and 8 in self-contained classrooms. Self-contained classrooms exist when students spend more than half the school day with one teacher who provides instruction in more than half of the academic areas of the curriculum.

006.21D Certification Endorsement Requirements: This endorsement shall require professional education coursework related to teaching children from kindergarten through grade eight and academic coursework in all areas of the elementary curriculum.

006.21D1 A minimum of 40 semester hours of professional education coursework shall include the following:

006.21D1a Child growth and development;

006.21D1b Curriculum, methodology, and assessment appropriate for all students in all areas of the elementary school curriculum;

006.21D1c Instructional strategies that are adapted for diverse students;

006.21D1d Organization and management of the classroom;

006.21D1e Communication skills in collaborating with parents and other adults, including those with diverse languages and cultures; and

006.21D1f History, trends, and societal and cultural issues which impact elementary education.

006.21D2 A minimum of 30 semester hours of academic coursework distributed across the four curriculum areas of English language arts, mathematics, science, and social studies/history. A minimum of six (6) semester hours is required in each of the four areas. Coursework in the four core areas includes:

006.21D2a Communication, including literature, composition and speech;
006.21D2b Mathematics;
006.21D2c Natural sciences; and
006.21D2d Social sciences.

006.21D3 In addition to the 30 semester hours listed above, academic coursework is required in each of the following areas:

006.21D3a Fine arts and humanities, and;
006.21D3b Health and wellness.

006.21E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.22 English.

006.22A Grade Levels: 7-12

006.22B Endorsement Type: Subject

006.22C Persons with this endorsement may teach writing, language, and literature in grades 7 through 12.

006.22D Certification Endorsement Requirements: This endorsement shall require a minimum of 30 semester hours in writing, language, and literature coursework.

006.22E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.23 English As A Second Language.

006.23A Grade Levels: PK-12, PK-6, 4-9, 7-12

006.23B Endorsement Type: Supplemental endorsement only. This endorsement requires an applicant to hold or earn concurrently a subject or field endorsement.

006.23C Persons with this endorsement may teach English as a Second Language (ESL) in the grade levels for which they are prepared.

006.23D Certification Endorsement Requirements: This endorsement shall require a minimum of 15 semester hours of coursework in the following topics: Second Language Acquisition, English Language/Linguistics, Cross-Cultural Communication, Methods/Curriculum Design in English as a Second Language, and Assessment and Evaluation of English Language Learners (ELL).

006.23D1 Practicum. Candidates must complete a 45 clock hour practicum working with ELL students at the grade level(s) of the endorsement being sought.

006.23E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.24 Family and Consumer Sciences.

006.24A Grade Levels: 6-12

006.24B Endorsement Type: Field

006.24C Persons with this endorsement may teach Family and Consumer Sciences courses.

006.24D Certification Endorsement Requirements: This endorsement shall require a minimum of 48 semester hours, including a minimum of three (3) semester hours to include the principles of career education and supervision of work-based learning, and 45 semester hours of Family and Consumer Sciences subject matter with the following minimums:

006.24D1 Three (3) semester hours – Careers, Community and Family Connections

006.24D2 Nine (9) semester hours – Consumer Economics and Family Resources

006.24D3 Nine (9) semester hours – Family and Human Development

006.24D4 Nine (9) semester hours – Nutrition, Wellness and Foods

006.24E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.25 General Art.

006.25A Grade Levels: K-6

006.25B Endorsement Type: Subject

006.25C Persons with this endorsement may organize and teach art learning experiences for students in kindergarten through grade 6.

006.25D Certification Endorsement Requirements: The endorsement shall require 25 semester hours in art.

006.25E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.26 Geography.

006.26A Grade Levels: 7-12

006.26B Endorsement Type: Subject

006.26C Persons with this endorsement may teach geography in grades 7 through 12.

006.26D Certification Endorsement Requirements: This endorsement requires a minimum of 36 semester hours including 30 hours in geography and six (6) semester hours in one or more of the other social sciences areas (Economics, History, Political Science, Psychology, and/or either Anthropology or Sociology).

006.26E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement. The courses shall incorporate the Nebraska social studies/history content standards found in 92 NAC 10 into the curriculum as applicable to the grade level endorsement.

006.27 Health Education.

006.27A Grade Levels: 7-12

006.27B Endorsement Type: Subject

006.27C Persons with this endorsement may teach comprehensive health education programs in grades 7 through 12.

006.27D Certification Endorsement Requirements: The health education endorsement program requires a minimum of 30 semester hours in health courses that demonstrate content knowledge and skills of a health literate educator; assess needs to determine priorities for comprehensive school health education; plan comprehensive school health curricula and programs; implement health education instruction; assess student learning; plan and coordinate a school health education program; communicate and advocate for health and school health education; serve as a resource person in health education; and collaborate with other professionals in implementing a coordinated school health program.

006.27E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.28 Health and Physical Education.

006.28A Grade Levels: PK-12

006.28B Endorsement Type: Field

006.28C Persons with this endorsement may teach health and physical education in grades Pre-Kindergarten through 12.

006.28D Certification Endorsement Requirements: This endorsement requires 54 semester hours of preparation in health and physical education courses with:

006.28D1 a minimum of 27 semester hours in foundations of physical education, including: anatomy; kinesiology and biomechanics; exercise physiology; motor learning and motor development; skill and fitness based competencies; curriculum planning and implementation; instructional delivery and classroom management; adapted physical education; and assessment of student learning in elementary and secondary physical education programs; and

006.28D2 a minimum of 27 semester hours in health education foundations that: demonstrate content knowledge and skills of a health literate educator; assess needs to determine priorities for comprehensive school health education; plan comprehensive school health curricula and programs; implement health education instruction; assess student learning; plan and coordinate a school health education program; communicate and advocate for health and school health education; serve as a resource person in health education; and collaborate with other professionals in implementing a coordinated school health program.

006.28E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.29 Health Occupations.

006.29A Grade Levels: 7–12

006.29B Endorsement Type: Subject

006.29C Persons with this endorsement may teach and manage a health occupations education program in grades 7 through 12 and function as a resource person in health within the total educational system.

006.29D Certification Endorsement Requirements: This endorsement shall require a minimum of 24 semester hours of health occupations and vocational education coursework plus work experience.

006.29D1 Health Occupations Experience: Prospective health occupations teachers must complete a minimum of 100 clock hours of observation (shadowing) of health care workers, including persons in an acute care facility, out-patient setting, and community health agency setting, OR have work experience in a health care occupation equivalent to one (1) full year within the last five (5) years.

006.29E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.30 High Ability Education.

006.30A Grade Levels: K-12

006.30B Endorsement Type: Supplemental endorsement only. This endorsement requires an applicant to have, or earn concurrently, an endorsement in a subject or field.

006.30C Persons with this endorsement may teach learners with high ability; facilitate the identification of learners with high ability; develop, coordinate, and evaluate programs for learners with high ability; and act as a resource person in education for students with high ability in kindergarten through grade 12.

006.30D Certification Endorsement Requirements: This endorsement shall require a minimum of 18 semester hours related to the education of learners with high ability and a minimum of 90 hours of related clinical experience, including experience at both elementary (K-6) and secondary (7-12) levels.

006.30E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.31 History.

006.31A Grade Levels: 7-12

006.31B Endorsement Type: Subject

006.31C Persons with this endorsement may teach history in grades 7 through 12.

006.31D Certification Endorsement Requirements: This endorsement requires a minimum of 36 semester hours including 30 semester hours in history and a minimum of six (6) semester hours in one or more of the other social sciences areas (Economics, Geography, Political Science, Psychology, and/or either Anthropology or Sociology).

006.31E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement. The courses shall incorporate the Nebraska social studies/history content standards found in 92 NAC 10 into the curriculum as applicable to the grade level endorsement.

006.32 Horticulture Education.

006.32A Grade Levels: 7-12

006.32B Endorsement Type: Subject

006.32C Persons with this endorsement may teach horticultural education programs in grades 7 through 12.

006.32D Certification Endorsement Requirements: This endorsement shall require a minimum of 27 semester hours of horticulture education and work experience in horticulture.

006.32D1 Work Experience: The endorsement is available to those persons who have (A) 1000 verified hours of work experience in horticulture, or (B) at least 300 hours of supervised employment in horticulture under the direction of the college or university recommending the endorsement.

006.32E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the

course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.33 Industrial Technology Education.

006.33A Grade Levels: 6-12

006.33B Endorsement Type: Field

006.33C Persons with this endorsement may teach Industrial Technology Education and will be eligible for the Cooperative Education/Diversified Occupations endorsement.

006.33D Certification Endorsement Requirements: This endorsement shall require 48 semester hours of coursework in industrial technology education and professional education, including:

006.33D1 A minimum of six (6) semester hours in each of the following areas: Architecture and Construction; Manufacturing; Science, Technology, Engineering and Mathematics (STEM); and Transportation, Distribution and Logistics. The career area courses will include career information, occupational and environmental safety.

006.33D2 A minimum of three (3) semester hours in the principles/foundations of career education; and

006.33D3 A minimum of three (3) semester hours in the supervision of work-based learning.

006.33D4 Work Experience: The endorsement is available only to those who have either (A) 1000 verified hours of volunteer, internship, or paid work experience; or (B) at least 300 hours of supervised work experience under the direction of the college or university recommending the endorsement.

006.33E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.34 Information Technology.

006.34A Grade Levels: PK-12

006.34B Endorsement Type: Supplemental endorsement only. This endorsement cannot exist by itself on a certificate, but is added to a certificate only in the presence of other endorsements which may have been acquired earlier or concurrently.

006.34C Persons with this endorsement may teach information technology courses in grades Pre-Kindergarten through 12.

006.34D Certification Endorsement Requirements: This endorsement requires a minimum of 15 semester hours in information technology courses.

006.34E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.35 Instructional Technology Leadership.

006.35A Grade Levels: PK-12

006.35B Endorsement Type: Supplemental endorsement only. This endorsement cannot exist by itself on a certificate, but is added to a certificate only in the presence of other endorsements which may have been acquired earlier or concurrently.

006.35C Persons with this endorsement may assist in or facilitate the development of technology programs for students in grades Pre-Kindergarten through 12.

006.35D Certification Endorsement Requirements: This endorsement shall require a minimum of 15 semester hours that shall include the following:

006.35D1 The study of school and district level technology integration into curriculum areas for instructional improvement;

006.35D2 The study of research and best practices of technology integration to address school improvement efforts; and

006.35D3 The study of education leadership for collecting, analyzing, reporting, and using data for instructional improvement.

006.35E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.36 Instrumental Music.

006.36A Grade Levels: K-8, 7-12

006.36B Endorsement Type: Subject

006.36C Persons with this endorsement may teach instrumental music in the grade levels of their endorsement (K-8 and/or 7-12).

006.36D Certification Endorsement Requirements: This endorsement shall require a minimum of 30 semester hours for either the K-8 or 7-12 endorsement; or 40 semester hours if the two endorsements are earned at the same time. This coursework shall include theory and composition, music history and literature, conducting, instrumental performing, and techniques and methodologies for the grade levels of the endorsement, and must include proficiency in at least one applied area.

006.36E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.37 Journalism and Mass Communications.

006.37A Grade Levels: 7-12

006.37B Endorsement Type: Subject

006.37C Persons with this endorsement may teach journalism writing and production courses, and direct student efforts in curricular and cocurricular mass media intended for public consumption.

006.37D Certification Endorsement Requirements: This endorsement shall require a minimum of 30 semester hours in journalism and mass communications.

006.37E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the

course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.38 Language Arts.

006.38A Grade Levels: 7-12

006.38B Endorsement Type: Field

006.38C Persons with this endorsement may teach and direct curricular and cocurricular activities in composition/language, literature, speech, theatre, mass communication, journalism and reading/writing in grades 7 through 12.

006.38D Certification Endorsement Requirements: This endorsement shall require a minimum of 65 semester hours in journalism and mass communications, language, literature, reading, speech, theatre, and writing.

006.38E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.39 Mathematics~~.~~

006.39A Grade Levels: ~~7~~6-12

006.39B Endorsement Type: Field

006.39C Persons with this endorsement may teach mathematics in grades ~~7~~6 through 12.

006.39D Certification Endorsement Requirements: This endorsement shall require a minimum of ~~30~~36 semester hours of mathematics.

006.39E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program shall have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.40 Middle Grades Education.

006.40A Grade Levels: 4-9

006.40B Endorsement Type: Field

006.40C Persons with this endorsement may teach either: (a) any or all subjects in a self-contained classroom in grades 4 through 9, (classrooms in which students spend more than half the school day with one teacher who provides instruction in more than half of the subject-matter areas of the curriculum) or (b) the content areas of specialization in any organizational pattern in grades 4 through 9.

006.40D Certification Endorsement Requirements: This endorsement shall require a total of 66 semester hours of which 30 semester hours shall be in professional education courses related to middle level education and a minimum of 36 semester hours in two or more Content Areas of Specialization with a minimum of 18 semester hours in each area. An endorsement in any of the Special Education endorsements, which includes any portion of grades 4-9, may be accepted in lieu of one Content Area of Specialization. In addition, persons with this endorsement must complete coursework in all academic areas of the middle grades curriculum.

006.40D1 Content Areas of Specialization include the following:

006.40D1a Agricultural Education
006.40D1b Art
006.40D1c Business Education
006.40D1d Family and Consumer Sciences
006.40D1e Foreign/World Language
006.40D1f Health and Physical Education
006.40D1g Industrial Technology
006.40D1h Language Arts
006.40D1i Mathematics
006.40D1j Natural Sciences
006.40D1k Social Science

006.40D2 Coursework in all academic areas of the middle grades curriculum includes:

006.40D2a communication, including composition and speech,
006.40D2b health and wellness,
006.40D2c humanities, including literature,
006.40D2d mathematics,
006.40D2e natural sciences,

006.40D2f social sciences, and
006.40D2g fine arts.

006.40D3 Clinical experiences. Prospective teachers shall be engaged in clinical experiences which shall include:

006.40D3a involvement with students at grades 4, 5, or 6 and students at grades 7, 8, or 9,
006.40D3b involvement with students representing special populations, and
006.40D3c teaching experiences in each of the prospective teacher's content areas of specialization.

006.40E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.41 Music.

006.41A Grade Levels: K-12

006.41B Endorsement Type: Field

006.41C Persons with this endorsement may teach vocal and instrumental music in kindergarten through grade 12.

006.41D Certification Endorsement Requirements: This endorsement shall require a minimum of 54 semester hours in theory and composition, music history and literature, conducting, choral and instrumental performing, techniques, and must include proficiency on at least one applied music area.

006.41E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

~~006.42 Natural Science.~~ (Moved to new section 006.54 Science)

~~006.42A Grade Levels: 7-12~~

~~006.42B Endorsement Type: Field~~

~~006.42C Persons with this endorsement may teach any natural science course in grades 7 through 12.~~

~~006.42D Certification Endorsement Requirements: This endorsement shall require a minimum of 48 semester hours of laboratory-based courses in the natural sciences (biology, chemistry, earth science, and physics), of which 24 semester hours must be in one of the four areas and 24 semester hours distributed among the other three areas. A laboratory-based course provides activity-based, hands-on experience for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.~~

~~006.42E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.~~

006.4~~3~~2 Physical Education.

006.4~~3~~2A Grade Levels: PK-6, 7-12

006.4~~3~~2B Endorsement Type: Subject

006.4~~3~~2C Persons with this endorsement may teach physical education in grades Pre-Kindergarten through 6, or 7-12.

006.4~~3~~2D Certification Endorsement Requirement: This endorsement shall require a minimum of 30 semester hours in physical education courses for Pre-Kindergarten through grade 6 or 7-12 endorsements.

006.4~~3~~2D1 The PK-6 endorsement shall require a minimum of 15 semester hours in foundations of physical education including: anatomy; kinesiology and biomechanics; exercise physiology; motor learning and motor development; and adapted physical education; plus a minimum of 15 semester hours of coursework in skill and fitness based competencies; curriculum planning and implementation; instructional delivery and classroom management; and assessment of student learning in elementary school physical education programs.

006.4~~3~~2D2 The 7-12 endorsement shall require a minimum of 15 semester hours in foundations of physical education

including: anatomy; kinesiology and biomechanics; exercise physiology; motor learning and motor development; and adapted physical education; plus a minimum of 15 semester hours of coursework in skill and fitness based competencies; curriculum planning and implementation; instructional delivery and classroom management; and assessment of student learning in secondary school physical education programs.

006.4~~3~~2D3 Applicants seeking both the PK-6 and 7-12 endorsements are required to earn a minimum of 42 semester hours of coursework as prescribed above for elementary and secondary school physical education programs.

006.4~~3~~2E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

~~006.44 Physical Science.~~

~~006.44A Grade Levels: 7-12~~

~~006.44B Endorsement Type: Field~~

~~006.44C Persons with this endorsement may teach any physical science course in grades 7 through 12.~~

~~006.44D Certification Endorsement Requirements: This endorsement shall require a minimum of 40 semester hours of laboratory based courses in the sciences (biology, chemistry, earth science, and physics), of which 36 semester hours are in chemistry, earth science and physics, and four (4) semester hours in biology. A laboratory-based course provides activity based, hands-on experiences for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.~~

~~006.44E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.~~

006.4~~5~~3 Physics~~.~~

006.4~~5~~3A Grade Levels: 7-12

006.4~~5~~3B Endorsement Type: Subject

006.4~~5~~3C Persons with this endorsement may teach any physics course in grades 7 through 12.

006.4~~5~~3D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 semester hours of laboratory based courses in the natural sciences (biology, chemistry, ~~e~~Earth and space science, and physics), of which 24 semester hours must be in physics, and a minimum of 12 semester hours of laboratory based courses among the remaining three natural sciences areas. A laboratory-based course provides activity-based, hands-on experience for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.

006.4~~5~~3E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.4~~6~~4 Political Science.

006.4~~6~~4A Grade Levels: 7-12

006.4~~6~~4B Endorsement Type: Subject

006.4~~6~~4C Persons with this endorsement may teach political science in grades 7 through 12.

006.4~~6~~4D Certification Endorsement Requirements: This endorsement requires a minimum of 36 semester hours including 30 semester hours in Political Science and six (6) semester hours in one or more of the other social sciences areas (Economics, Geography, History, Psychology, and/or either Anthropology or Sociology).

006.~~4~~64E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement. The courses shall incorporate the Nebraska social studies/history content standards

found in 92 NAC 10 into the curriculum as applicable to the grade level endorsement.

006.4~~7~~5 Preschool Disabilities.

006.4~~7~~5A Grade Levels: Birth through Kindergarten

006.4~~7~~5B Endorsement Type: Subject

006.4~~7~~5C Persons with this endorsement may provide services to and teach infants, toddlers, and preschool and kindergarten children who have a range of disabilities, and services to families and other personnel with responsibilities for their care and education.

006.4~~7~~5D Certification Endorsement Requirements: This endorsement shall require a minimum of 30 semester hours related to preschool disabilities, plus field/clinical experiences.

006.4~~7~~5E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.4~~8~~6 Psychology.

006.4~~8~~6A Grade Levels: 7-12

006.4~~8~~6B Endorsement Type: Subject

006.4~~8~~6C Persons with this endorsement may teach psychology in grades 7 through 12.

006.4~~8~~6D Certification Endorsement Requirements: This endorsement requires a minimum of 36 hours including 30 semester hours in Psychology and six (6) semester hours in one or more of the other social sciences areas (Economics, Geography, History, Political Science, and/or Anthropology or Sociology).

006.4~~8~~6E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.4~~9~~7 Reading and Writing.

006.4~~9~~7A Grade Levels: 7-12

006.4~~9~~7B Endorsement Type: Subject

006.4~~9~~7C Persons with this endorsement may teach reading and writing, and be a reading resource teacher to content area teachers in grades 7 through 12.

006.4~~9~~7D Certification Endorsement Requirements: This endorsement requires a minimum of 24 semester hours in courses selected from learning theories, study of the adolescent, reading theories, developmental reading on the secondary level, diagnostic and remedial techniques and materials, adolescent literature, language, and writing.

006.4~~9~~7E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.~~50~~48 Reading Specialist.

006.~~50~~48A Grade Levels: PK-12, K-8, and 7-12

006.~~50~~48B Endorsement Type: Subject

006.~~50~~48C Persons with this endorsement may teach, provide leadership for professional development in the area of reading, and assess and interpret data to determine and implement instructional options for teaching students.

006.~~50~~48D Certification Endorsement Requirements: This endorsement requires a minimum of 30 graduate semester hours in reading and related courses. In addition, this endorsement requires clinical experiences appropriate for the endorsement level.

006.~~50~~48D1 Additional Requirements: An applicant for this endorsement shall have a regular teaching certificate and two (2) years of teaching experience.

006.~~50~~48E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.~~51~~49 Religious Education.

006.~~51~~49A Grade Levels: K-12

006.~~51~~49B Endorsement Type: Subject

006.~~51~~49C Persons with this endorsement may teach religion in private schools.

006.~~51~~49D Certification Endorsement Requirements: This endorsement shall require a minimum of 24 semester hours of religion.

006.~~51~~49D1 College Limitation: This endorsement may be approved to be offered as part of an approved teacher education program only in nonpublic institutions of higher education.

006.~~51~~49E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.5~~2~~0 Reserve Officer Training Corps (ROTC).

006.5~~2~~0A Grade Levels: 9-12

006.5~~2~~0B Endorsement Type: Subject

006.5~~2~~0C The endorsement shall be valid only in the area of ROTC and may appear only on a career education certificate.

006.5~~2~~0C1 Four (4) years of full time or salaried employment in the military.

006.5~~2~~0D A letter of recommendation from an employer or a former supervisor on a form provided by the Department.

006.5~~3~~1 School Counselor.

006.5~~3~~1A Grade Levels: PK-6, 7-12; PK-12

006.5~~3~~1B Endorsement Type: Subject (PK-6; 7-12); Field (PK-12)

006.5~~3~~1C Persons with this endorsement may serve as school counselors in the grade levels of the endorsement (PK-6; 7-12; PK-12).

006.5~~3~~1D Certification Endorsement Requirements: The endorsement shall require the applicant to have two (2) years of teaching experience in an approved or accredited PK-12 district or system, and a Master's Degree in Counseling with a specialization in School Counseling with a minimum of 36 graduate semester hours including:

006.5~~3~~1D1 At least 100 clock hours of school related field experiences prior to internship; and

006.5~~3~~1D2 At least 450 clock hours of internship at the grade levels of the endorsement.

006.5~~3~~1E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.5~~4~~2 School Librarian. (formerly Library Media Specialist)

006.A5~~4~~2 Grade Levels: PK-12

006.B5~~4~~2 Endorsement Type: Field

006.C5~~4~~2 Persons with this endorsement may supervise the development and organization of a library media program and teach or direct the use of the library media resources and services in grades Pre-Kindergarten through 12.

006.D5~~4~~2 Certificate Endorsement Requirements: This endorsement shall require the applicant to hold a teaching certificate or concurrently earn a subject or field endorsement, and acquire a minimum of 30 semester hours in library media courses, including leadership, library administration, technology, information access, children's and young adult literature, resource management, and curriculum and instruction.

006.E5~~4~~2 Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.5~~5~~3 School Psychologist.

006.5~~5~~3A Grade Levels: PK-12

006.5~~5~~3B Endorsement Type: Field

006.5~~5~~3C Persons with this teaching endorsement may provide school psychological services to students (birth to age 21), school personnel, parents and other specialists related to individual student needs or school program considerations.

006.5~~5~~3D Certification Endorsement Requirements: This endorsement requires at least 60 graduate semester hours beyond the baccalaureate degree, in which at least 54 are exclusive of credit for the supervised internship.

006.5~~5~~3D1 A minimum of 1,200 clock hours of internship experience, supervised by a Standard Institution of Higher Education, 600 of which must be in a school setting. Applicants who have completed 600 hours of supervised experience in school settings prior to the internship as part of their doctoral training program in school psychology may complete all 1,200 hours of their supervised internship in a setting that provides psychological services to children, birth to age 21.

006.5~~5~~3E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.54 Science

006.54A Grade Levels: 7-12

006.54B Endorsement Type: Field

006.54C Persons with this endorsement may teach any science course in grades 7 through 12.

006.54D Certification Endorsement Requirements: This endorsement shall require a minimum of 48 semester hours of laboratory-based courses with a minimum of two laboratory-based courses in each of the four disciplines in the sciences (biology, chemistry, Earth and space, and physics.) A laboratory-based course provides activity-based, hands-on experiences for all students. Laboratory activities shall be

designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concepts to the real lives of students.

006.54E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.5~~6~~5 Skilled and Technical Science Education.

006.5~~6~~5A Grade Levels: 9-12

006.5~~6~~5B Endorsement Type: Supplemental endorsement available only in the presence of Agricultural Education or Industrial Technology Education endorsements.

006.5~~6~~5C Persons with this endorsement may teach Skilled and Technical Science Education (formerly Trade and Industrial Education).

006.5~~6~~5D Certification Endorsement Requirements: This endorsement requires the following:

006.5~~6~~5D1 A minimum of 12 semester hours in one of the specific career areas listed below:

006.5~~6~~5D1a Architecture and Construction Career Area:

006.5~~6~~5D1a(1) Design and Pre-Construction; or
006.5~~6~~5D1a(2) Construction; or
006.5~~6~~5D1a(3) Maintenance and Operations

006.5~~6~~5D1b Manufacturing Career Area:

006.5~~6~~5D1b(1) Health, Safety and Environmental Assurance; or
006.5~~6~~5D1b(2) Logistics and Inventory Control; or
006.5~~6~~5D1b(3) Maintenance, Installation, and Repair; or
006.5~~6~~5D1b(4) Manufacturing Production Process Development; or
006.5~~6~~5D1b(5) Production; or
006.5~~6~~5D1b(6) Quality Assurance

006.5~~6~~65D1c Science Technology, Engineering, and Mathematics (STEM) Career Area:

006.5~~6~~65D1c(1) Engineering and Technology

006.5~~6~~65D1d Transportation, Distribution and Logistics Career Area:

006.5~~6~~65D1d(1) Facility and Mobile Equipment Maintenance; or
006.5~~6~~65D1d(2) Health, Safety and Environmental Management; or
006.5~~6~~65D1d(3) Logistics Planning and Management Services; or
006.5~~6~~65D1d(4) Transportation/Systems Infrastructure; or
006.5~~6~~65D1d(5) Warehousing and Distribution Center Operations

006.5~~6~~65D2 Work Experience: The endorsement is available only to those persons who have:

006.5~~6~~65D2a 1000 verified hours of paid employment in the industry in which the specific career area coursework is taken; or

006.5~~6~~65D2b 500 hours of verified paid employment in the industry in which the specific career area coursework is taken plus a valid nationally recognized trade certification/licensure in the career area in which the specific career area coursework is taken.

006.5~~6~~65D3 This endorsement shall require an applicant to earn, or qualify for, a Cooperative Education/Diversified Occupations endorsement which includes:

006.5~~6~~65D3a A minimum of three (3) semester hours in the principles/foundations of career education; and

006.5~~6~~65D3b A minimum of three (3) semester hours in the supervision of work-based learning.

006.5~~6~~65E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the

course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.5~~7~~6 Social Science.

006.5~~7~~6A Grade Levels: 7-12

006.5~~7~~6B Endorsement Type: Field

006.5~~7~~6C Persons with this endorsement may teach any social sciences course in grades 7 through 12.

006.5~~7~~6D Certification Endorsement Requirements: This endorsement shall require a minimum of 60 semester hours of coursework in the social sciences (Economics, Geography, History, Political Science, Psychology, and either Anthropology or Sociology). The 60 semester hours include a minimum of 21 semester hours in History, of which nine (9) must be in U.S. History and nine (9) in World History. There must be a minimum of six (6) semester hours in each of the remaining five social sciences areas (Economics, Geography, Political Science, Psychology, and either Anthropology or Sociology).

006.5~~7~~6E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement. The courses shall incorporate the Nebraska social studies/history content standards found in 92 NAC 10 into the curriculum as applicable to the grade level endorsement.

006.5~~8~~7 Sociology.

006.5~~8~~7A Grade Levels: 7-12

006.5~~8~~7B Endorsement Type: Subject

006.5~~8~~7C Persons with this endorsement may teach sociology in grades 7 through 12.

006.5~~8~~7D Certification Endorsement Requirements: This endorsement requires a minimum of 36 semester hours including 30 semester hours in sociology and six (6) semester hours in one or more of the other social sciences areas (Economics, Geography, History, Political Science, Psychology, and/or Anthropology).

006.5~~8~~7E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement. The courses shall incorporate the Nebraska social studies/history content standards found in 92 NAC 10 into the curriculum as applicable to the grade level endorsement.

006.5~~9~~8 Special Education - Behaviorally Disordered.

006.5~~9~~8A Grade Levels: PK-12, PK-6, 7-12, PK-9

006.5~~9~~8B Endorsement Type: Subject

006.5~~9~~8C Persons with this endorsement may teach individuals with behavioral disorders at the grade level (PreK-12; PreK-6; 7-12; or PreK-9) of their endorsement, and consult with teachers, parents, students and other service providers.

006.5~~9~~8D Certification Endorsement Requirements: This endorsement shall require a minimum of 30 graduate semester hours with specific emphasis on individuals with behavioral disorders.

006.5~~9~~8D1 Teaching Experience: Applicants for this endorsement shall have one year of teaching experience.

006.5~~9~~8D2 Additional Requirement: This program shall provide applicants with supervised practicum/clinical experiences. The experience shall consist of a minimum of 250 clock hours with individuals with behavioral disorders. The 250 clock hours may be included in the 30 graduate semester hour requirement.

006.5~~9~~8E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.~~60~~59 Special Education - Deaf or Hard of Hearing Education/Field.

006.~~60~~59A Grade Levels: PK-12

006.~~60~~59B Endorsement Type: Field

006.~~60~~59C Persons with this endorsement may teach hearing impaired students in self-contained, resource, or itinerant settings.

006.~~60~~59D Certification Endorsement Requirements: This endorsement shall require completion of a minimum of: 12 semester hours of coursework in general special education and 28 semester hours of course work in communication disorders and hearing impairment.

006.~~60~~59E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.6~~1~~0 Special Education - Deaf or Hard of Hearing Education/Subject.

006.6~~1~~0A Grade Levels: PK-3, K-9, 7-12, K-12, or PK-12 dependent on other certification

006.6~~1~~0B Endorsement Type: Subject

006.6~~1~~0C Persons with this endorsement may teach students who are deaf or hard of hearing at one of the following levels: Pre-kindergarten through grade 3, K-9, 7-12, K-12, or Pre-kindergarten through grade 12.

006.6~~1~~0D Certification Endorsement Requirements: This endorsement shall require an applicant to hold, or earn concurrently, a subject or field endorsement and earn a minimum of 30 semester hours in special education courses, including six (6) semester hours in general special education and 24 semester hours in the education of students who are deaf or hard of hearing.

006.6~~1~~0E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.6~~2~~1 Special Education - Early Childhood Special Education.

006.6~~2~~1A Grade Levels: Birth through Grade 3

006.6~~2~~1B Endorsement Type: Subject

006.6~~2~~1C Persons with this endorsement may teach, coordinate, or serve as a consultant to programs for infants, toddlers, preprimary, and primary aged children who have a range of disabilities, and services to families and other personnel with responsibilities for their care and education.

006.6~~2~~1D Certification Endorsement Requirements: This endorsement shall require a minimum of 27 graduate semester hours related to Early Childhood Education and Special Education; and 100 clock hours of related field experiences.

006.6~~2~~1D1 Field experiences shall consist of a minimum of 100 clock hours (total) working with young children with a range of disabilities. At least 20 clock hours will be spent with each of the following age groups: infants/toddlers, preprimary, and primary.

006.6~~2~~1E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.6~~3~~2 Special Education--Learning Disabilities.

006.6~~3~~2A Grade levels: PK-12, PK-6, PK-9, 7-12

006.6~~3~~2B Endorsement Type: Subject

006.6~~3~~2C Persons with this endorsement may teach individuals with learning disabilities and consult with teachers, parents, and students.

006.6~~3~~2D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 graduate semester hours of coursework and 150 clock hours of practicum/clinical experiences with specific emphasis on individuals with learning disabilities.

006.6~~3~~2D1 Practicum/Clinical Experiences. This program shall provide applicants with supervised practicum/clinical experiences. The experiences shall consist of a minimum of 150 clock hours.

006.6~~3~~2E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement must have on file, within the institution, a plan which identifies the courses and the course

completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.643 Special Education - Mild/Moderate Disabilities.

006.643A Grade Levels: K-12, K-6, K-9, 7-12

006.643B Endorsement Type: Field

006.643C Persons with this endorsement may teach children and youth who have mild or moderate disabilities and who are verified as per 92 NAC 51 as students with one or more of the following disabilities: developmental delay, specific learning disabilities, speech language impairment (language verification only), mild or moderate mental handicap, behavior disorders, orthopedic impairments, autism, other health impairments, and traumatic brain injury. Persons with this endorsement may also teach verified children and youth who are placed in multi-categorical programs. In addition, persons with this endorsement may teach the students until the public school educational responsibilities are terminated.

006.643D Certification Endorsement Requirements: This endorsement shall require a minimum of 40 semester hours, including a minimum of 22 semester hours in special education courses and the remaining coursework addressing content areas that include methods and materials of teaching, supervised practicum or internship experiences (not including student teaching) designed to provide the competencies required of a special education professional educator which includes at a minimum, assessment skills, instructional and behavioral intervention skills in the listed disability areas, consultation and collaboration skills, and inclusive education practices.

006.643E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.654 Special Education – Severe/Multiple Disabilities.

006.654A Grade Levels: PK-12

006.654B Endorsement Type: Supplemental. Candidates for this endorsement shall have, or earn concurrently, the Special Education: Mild/Moderate Disabilities endorsement.

006.6~~5~~4C Persons with this endorsement may teach children and youth who have been verified per 92 NAC 51 as students with severe or multiple disabilities in one or more of the following areas: autism, deaf-blindness, developmental delay, moderate, severe, or profound mental handicap, multiple disabilities, orthopedic impairments, other health impairments, and traumatic brain injury. Persons with this endorsement may teach students ranging in age from pre-kindergarten to the termination of public school educational responsibility.

006.6~~5~~4D Certification Endorsement Requirements: Candidates for this endorsement must hold, or earn concurrently a Special Education: Mild/Moderate Disabilities Endorsement, and complete a minimum of 15 additional semester hours in special education courses related to severe and/or multiple disabilities which includes at a minimum, assessment skills, instructional and behavioral intervention skills in the listed disability areas, consultation and collaboration skills, and inclusive education practices.

006.6~~5~~4E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.6~~6~~5 Special Education - Visual Impairment.

006.6~~6~~5A Grade Levels: PK-12

006.6~~6~~5B Endorsement Type: Subject

006.6~~6~~5C Persons with this endorsement may teach students with visual impairments from birth through age 21. "Visual Impairment" includes blindness, low vision (legal blindness and partial sight) and vision loss associated with other impairments.

006.6~~6~~5D Certification Endorsement Requirements: This endorsement shall require an applicant to hold, or earn concurrently, a subject or field endorsement and earn a minimum of 30 semester hours in special education courses including six (6) semester hours in general special education and 24 semester hours in the education of students with visual impairment.

006.6~~6~~5E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the

course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.6~~7~~6 Speech.

006.6~~7~~6A Grade Levels: 7-12

006.6~~7~~6B Endorsement Type: Subject

006.6~~7~~6C Persons with this endorsement may teach and direct, or act as a resource person for speech activities in grades 7 through 12.

006.6~~7~~6D Certification Endorsement Requirements: This endorsement shall require a minimum of 30 semester hours in speech and communication courses.

006.6~~7~~6E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.6~~8~~7 Speech and Theatre.

006.6~~8~~7A Grade Levels: 7-12

006.6~~8~~7B Endorsement Type: Field

006.6~~8~~7C Persons with this endorsement may teach, direct, or act as a resource person in curricular and cocurricular activities in speech and theatre in grades 7 through 12.

006.6~~8~~7D Certification Endorsement Requirements: This endorsement shall require a minimum of 54 semester hours in speech, communication, and theatre courses.

006.6~~8~~7E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.6~~9~~8 Speech-Language Pathologist~~.~~

006.6~~9~~8A Grade Levels: Birth ~~through grade 12~~ to age 21

006.6~~9~~8B Endorsement Type: Field~~Subject~~

006.6~~9~~8C Persons with this teaching endorsement may ~~serve as a~~ provide speech language patholog~~y~~ist services to and consultative services ~~and resource person for programs involving~~ for individuals from birth ~~through grade 12~~ to age 21 or completion of their Individualized Education Program.

006.6~~9~~8D Certification Endorsement Requirements: This endorsement requires a minimum of a ~~M~~master's degree in ~~S~~speech-~~L~~language ~~P~~pathology which includes at least 36 graduate semester hours in speech-language pathology and course work in related areas. Applicants must complete a minimum of ~~250~~ 400 clock hours of clinical experiences and an internship, supervised by the standard institution, in ~~a~~ school ~~or~~and clinic settings.

006.6~~9~~8E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.~~70~~69 Theatre.

006.~~70~~69A Grade Levels: 7-12

006.~~70~~69B Endorsement Type: Subject

006.~~70~~69C Persons with this endorsement may teach and direct, or act as a resource person, for curricular and cocurricular activities in theatre in grades 7 through 12.

006.~~70~~69D Certification Endorsement Requirements: This endorsement shall require 30 semester hours in dramatic literature, history of the theatre, acting, stagecraft, costume and makeup, lighting, directing theatre productions, and theatre management.

006.~~70~~69E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.7~~1~~0 Vocal Music.

006.7~~1~~10A Grade Levels: K-8; 7-12

006.7~~1~~10B Endorsement Type: Subject

006.7~~1~~10C Persons with this endorsement may teach vocal music in the grade levels of their endorsements (K-8 and/or 7-12).

006.7~~1~~10D Certification Endorsement Requirements: This endorsement shall require a minimum of 30 semester hours for either the K-8 or 7-12 endorsement, or 40 semester hours if the two endorsements are earned at the same time. Coursework shall include theory and composition, music history and literature, conducting, vocal performing, and techniques and methodologies for the grade levels of the endorsement, and must include proficiency in at least one applied area.

006.7~~1~~10E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.7~~2~~21 Vocational Special Needs.

006.7~~2~~21A Grade Levels: 7-12

006.7~~2~~21B Endorsement Type: Supplemental endorsement only. This endorsement requires an applicant to have a field or subject endorsement.

006.7~~2~~21C Persons with this endorsement may teach vocational education to students with disadvantages and/or disabilities in grades 7 through 12.

006.7~~2~~21D Certification Endorsement Requirements: This endorsement requires a minimum of nine (9) semester hours in vocational special needs courses.

006.7~~2~~21E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

006.7~~3~~32 World Language: Any language other than English, not including computer languages.

006.7~~3~~2A Grade Levels: K-8, 7-12, or K-12

006.7~~3~~2B Endorsement Type: Subject

006.7~~3~~2C Persons with this endorsement may teach at the grade levels and the world language(s) for which they have been prepared.

006.7~~3~~2D Certification Endorsement Requirements: This endorsement requires a minimum of 30 semester hours in the world language for either the K-8 or 7-12 endorsement. Those candidates seeking a K-12 endorsement must complete coursework and clinical experiences which address elementary and secondary levels.

006.7~~3~~2D1 Upon successful completion of the Official American Council for the Teaching of Foreign Languages (ACTFL) Oral Proficiency Interview (OPI) and the Official ACTFL Writing Proficiency Test (WPT) at the Advanced-Low level of proficiency in the target languages of French, German, Hebrew, Italian, Portuguese, Russian, and/or Spanish, and at the Intermediate-High level for Arabic, Chinese, Japanese, and/or Korean, the Nebraska teacher education institutions may waive up to 15 hours of the 30 hours required in the world language.

006.7~~3~~2E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

007 Special Services Endorsements.

007.01 Educational Audiologist.

007.01A Grade Levels: Birth through grade 12

007.01B Endorsement Type: Special Services

007.01C Persons with this endorsement may serve as an audiologist and resource person for programs involving individuals from birth through grade 12.

007.01D Certification Endorsement Requirements: This endorsement requires a minimum of a master's degree in audiology, which includes at least 36 graduate semester hours in an educational

audiology program approved under this chapter. This program also includes 70 clock hours of a school internship in educational audiology supervised by a standard institution faculty member (the internship requirement may be included in the 36 graduate semester hours).

007.01E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

007.02 School Nurse.

007.02A Grade Levels: PK-12

007.02B Endorsement Type: Special Services

007.02C Persons with this endorsement may practice school nursing for students Pre-kindergarten through grade 12.

007.02D Certification Endorsement Requirements: This endorsement shall require a current Nebraska license as a Registered Professional Nurse from the Nebraska Department of Health and Human Services or another state participating in the Nurse Licensure Compact as defined in Section 71-1795 R.R.S..

007.03 School Transition Specialist.

007.03A Grade Levels: 7-12

007.03B Special Services Endorsement

007.03C Persons with this Special Services Endorsement may counsel and provide services for youth with disabilities and consult with teachers, parents, and students in grades 7 through 12.

007.03D Certification Endorsement Requirements: This Special Services Endorsement shall require a minimum of 18 graduate semester hours of coursework and clinical experience with emphasis on children and youth, ages 14 to 21, with disabilities. Candidates for this program will have completed a Master's Degree or be concurrently engaged in a Master's program with the awarding of the endorsement dependent upon successful completion of the Master's program.

007.03E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on

file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

007.04 Speech Language Technician~~.~~

007.04A Grade Levels: ~~PK-12~~ Birth to age 21

007.04B Endorsement Type: Special Services

007.04C Persons with this endorsement may provide speech-language services for individuals ~~students~~ from ~~pre-kindergarten~~ birth to age 21.~~; through grade 12~~; ~~they~~ The person must be supervised by a certified speech-language pathologist.~~, they~~ The person may not fulfill the requirement(s) of a speech-language pathologist ~~in 92 NAC 51 for membership~~ on a multi-disciplinary evaluation team ~~and/~~or an individualized family service plan (IFSP) ~~educational plan~~ team or individual education plan (IEP) team.

007.04D Certification Endorsement Requirements: This endorsement ~~will~~ requires the applicant to have completed a baccalaureate degree in communication disorders/speech-language pathology.

007.04E Limited Purpose: This endorsement may be placed only on the Nebraska Provisional Special Services Certificate with validity, terms and renewal options as described for that certificate in 92 NAC 21.

007.04F No Nebraska Standard Institution of Higher Education will be granted approval to offer a program of study leading to this endorsement.

007.05 Coaching~~.~~

007.05A Grade Levels: ~~9~~7-12

007.05B Endorsement Type: Special Services

007.05C The endorsement shall be valid only in the area of coaching extracurricular activities and may appear only on a special services certificate.

007.05D The endorsement shall be valid only in the Nebraska school system requesting the issuance of such certificate and shall require:

007.05D1 Successful completion of the following content from a college with an approved teacher education program or from other organizations who provide instruction in the same content:

007.05D1a Prevention, care and management of injuries;

007.05D1b Risk management;

007.05D1c Growth, development and learning;

007.05D1d Training, conditioning and nutrition;

007.05D1e Psychology of coaching; and

007.05D1f Coaching theory and methods.

APPENDIX A
STATUS OF ENDORSEMENTS NO LONGER IN CHAPTER 24

ENDORSEMENT NO LONGER CONTAINED IN THIS CHAPTER	COMPARABLE REPLACEMENT TO ENDORSEMENT	REVOKED ENDORSEMENT
Aerospace		Revoked
Athletic Training		Revoked
Biological Science	Biology	
Business Education	Business, Marketing, and Information Technology (BMIT)	
Chinese/Foreign Language - Chinese	World Language-Chinese	
Communication		Revoked
Computer Science	Information Technology	
Consultant	Curriculum Supervisor	
Coordinator	Curriculum Supervisor	
Culinary Arts		Revoked
Curriculum	Curriculum Supervisor	
Curriculum Director	Curriculum Supervisor	
Dance		Revoked
Director	Curriculum Supervisor	
Director SPED	Special Education: Curriculum Supervisor	
Distributive Education	Business, Marketing, and Information Technology (BMIT)	
Div Occupations/School To Work	Cooperative Education - Diversified Occupations	
Diversified Occupations	Cooperative Education - Diversified Occupations	
Educational Library Media Specialist	School Librarian	
Educable Mentally Handicapped	Special Education: Mild/Moderate Disabilities	
English as a Second Language – Beyond Baccalaureate	English as a Second Language	
English as a Second Language – Undergraduate	English as a Second Language	
Family/Consumer Services	Family and Consumer Sciences	

Family and Consumer Sciences Related Occupations	Cooperative Education – Diversified Occupations	
Fine/Practical Arts		Revoked
Foreign Language	World Language	
French/Foreign Language - French	World Language - French	
General Office Education	Basic Business	
General Science	Natural Science, Middle Grades – Natural Sciences	
German/Foreign Language - German	World Language - German	
Gifted	High Ability Education	
Global Awareness		Revoked
Homemaking	Family and Consumer Sciences	
Home Economics Related Occupations	Cooperative Education – Diversified Occupations	
Humanities		Revoked
Italian/Foreign Language –Italian	World Language - Italian	
Japanese/Foreign Language - Japanese	World Language - Japanese	
Journalism	Journalism and Mass Communications	
Korean/Foreign Language - Korean	World Language - Korean	
Language Arts - Social Science	Middle Grades – Language Arts & Social Science	
Latin/Foreign Language - Latin	World Language - Latin	
Learning Disabled	Special Education: Learning Disabilities	
Library Media Specialist	School Librarian	
Library Science	School Librarian	
Marketing Education	Business, Marketing, and Information Technology (BMIT)	
Mentally Retarded	Special Education: Mild/Moderate Disabilities	
Miscellaneous		Revoked
Natural Science	Science	

Occupational Home Economics	Cooperative Education – Diversified Occupations	
Orthopedically Handicapped	Special Education: Mild/Moderate Disabilities	
Other Endorsement		Revoked
Other Trade or Industrial Areas	Career Education	
Physical Science		Revoked
Pre-School Handicapped	Pre-school Disabilities	
Psychological Assistant		Revoked
Reading	Reading and Writing	
Resource Teacher	Special Education: Mild/Moderate Disabilities	
School Guidance Counselor	School Counselor	
School Rehabilitation Counselor	School Transition Specialist	
Sciences	Middle Grades – Natural Science	
Spanish/Foreign Language - Spanish	World Language - Spanish	
Speech and Drama	Speech and Theatre	
Supervisor	Curriculum Supervisor	
Supervisor - Physical Education	Curriculum Supervisor - Physical Education	
Supervisor - Special Education	Curriculum Supervisor - Special Education	
Supervisor - Speech Pathology	Curriculum Supervisor - Speech-Language Pathology	
Trade and Industrial Education	Skilled and Technical Science Education	
Trainable Mentally Retarded	Special Education: Mild/Moderate Disabilities	
T&I Printing		Revoked
Urban Education		Revoked
Vocational Education	Curriculum Supervisor - Vocational Education	
Vocational T&I	Skilled & Technical Science	Vocational T&I
World Civilization		Revoked

Summary of Rule 24 Endorsement Changes—Effective August 1, 2013 pending approval

Administrative Certificate Endorsement:

Superintendent: Guidelines revised based on Educational Leadership Constituent Council (ELCC), District Level, 2011.

Teaching Certificate Endorsements:

Science:

- Biology (subject): Guidelines revised based on the National Science Teachers Association (NSTA) Standards, 2011.
- Chemistry (subject): Guidelines revised based on the National Science Teachers Association (NSTA) Standards, 2011.
- Earth and Space Science (subject): Formerly Earth Science. Guidelines revised based on the National Science Teachers Association Standards (NSTA), 2011.
- Physics (subject): Revised Guidelines based on the National Science Teachers Association (NSTA) Standards, 2011.
- Science (field): Formerly Natural Science. Changed the distribution of the required 48 credit hours to require a minimum of two laboratory-based courses in each of the four disciplines—biology, chemistry, Earth and space science, and physics. Guidelines revised based on the National Science Teachers Association (NSTA) Standards, 2011.
- Physical Science (field): Endorsement eliminated upon recommendation of Science Ad Hoc committee and the Nebraska Council on Teacher Education.

Mathematics (field): Grade level changed to 6-12 (formerly 7-12). Hours increased from 30 to 36. Guidelines revised based on the National Council of Teachers of Mathematics (NCTM) Standards, 2012.

Speech-Language Pathology (SLP): Changed from subject to field. Age level changed from Birth-Grade 12 to Birth-age 21, internship hours increased from 250 to 400 clock hours in school and clinical settings. Guidelines revised based on the American Speech-Language Hearing Association (ASHA) Standards, 2008.

Special Services Certificate Endorsements

Speech Language Technician (SLT): Changed from Birth-Grade 12 to Birth-age 21. Certificate requires that the individual has completed a baccalaureate degree in communication disorders/speech pathology and must be supervised by a certified speech-language pathologist (SLP). An SLT may not fulfill requirements of a speech-language pathologist in 92 NAC 51 for membership on a multi-disciplinary evaluation team and/or on an individualized family service plan (ISFP). Nebraska institutions may not offer a program leading to this endorsement; the intent of this endorsement is to address SLP shortages by permitting school employment while the individual completes requirements for a regular Speech-Language Pathology endorsement; certificate must be renewed annually and only with evidence of annual course completion requirements (six graduate credits per year).

Coaching: Grade level changed from 9-12 to 7-12.

005.03 Superintendent~~.~~

005.03A Grade Levels: PK-12

005.03B Endorsement Type: Field/Administrative

005.03C Persons with this endorsement may serve in all general administrative and supervisory capacities in Nebraska schools as superintendent, principal, or other administrative roles at all levels.

005.03D Certification Endorsement Requirements: This endorsement requires a minimum of 60 graduate semester hours (beyond the baccalaureate degree) in educational administration, completion of a specialist or doctoral program in an education administration program developed for the preparation of a superintendent, and a one-semester ~~practicum~~ internship in an approved or accredited school system.

005.03D1 The applicant for this endorsement must qualify for a regular teaching certificate and an administrative certificate and have two (2) years of teaching experience.

005.03E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

005.03E1 The applicant shall be admitted to the program of studies leading to this endorsement following a screening process which shall include (1) a review of transcripts, (2) three letters of recommendation from people who know of the candidate's work, (3) successful completion of a qualifying examination as identified by the standard institution, and (4) a written statement from the candidate outlining his/her professional goals. ~~for seeking a superintendency.~~

THE FOLLOWING ARE RECOMMENDED GUIDELINES FOR INCLUSION AS PART OF THE INSTITUTION'S PLAN UNDER THIS ENDORSEMENT

Through the courses identified in its plan, the institution ~~should~~ must provide ~~prospective~~ superintendent~~s~~ candidates ~~to:~~with opportunities to demonstrate the dispositions and competencies required by the following guidelines, based on Educational Leadership Constituent Council (ELCC) Standards (2011 ELCC, District Level).

Standard 1: A district-level education leader applies knowledge that promotes the success of every student by facilitation of the development, articulation, implementation, and stewardship of a shared district vision of learning through the collection and use of data to identify district goals, assess organizational effectiveness, and implement district plans to achieve district goals; promotion of continual and sustainable district improvement; and evaluation of district progress and revision of district plans supported by district stakeholders.

Element 1.1: Candidates understand and can collaboratively develop, articulate, implement, and steward a shared district vision of learning for a school district.

Element 1.2: Candidates understand and can collect and use data to identify district goals, assess organizational effectiveness, and implement district plans to achieve district goals.

Element 1.3: Candidates understand and can promote continual and sustainable district improvement.

Element 1.4: Candidates understand and can evaluate district progress and revise district plans supported by district stakeholders.

Standard 2: A district-level education leader applies knowledge that promotes the success of every student by sustaining a district culture conducive to collaboration, trust, and a personalized learning environment with high expectations for students; creating and evaluating a comprehensive, rigorous, and coherent curricular and instructional district program; developing and supervising the instructional and leadership capacity across the district; and promoting the most effective and appropriate technologies to support teaching and learning within the district.

Element 2.1: Candidates understand and can advocate, nurture, and sustain a district culture and instructional program conducive to student learning through collaboration, trust, and a personalized learning environment with high expectations for all students.

Element 2.2: Candidates understand and can create and evaluate a comprehensive, rigorous, and coherent curricular and instructional district program.

Element 2.3: Candidates understand and can develop and supervise the instructional and leadership capacity across the district.

Element 2.4: Candidates understand and can promote the most effective and appropriate district technologies to support teaching and learning within the district.

Standard 3. A district-level education leader applies knowledge that promotes the success of every student by ensuring the management of the district's organization, operation, and resources through monitoring and evaluating district management and operational systems; efficiently using human, fiscal, and technological resources within the district; promoting district-level policies and procedures that protect the welfare and safety of students and staff across the district; developing district capacity for distributed leadership; and ensuring that district time focuses on high-quality instruction and student learning.

Element 3.1: Candidates understand and can monitor and evaluate district management and operational systems.

Element 3.2: Candidates understand and can efficiently use human, fiscal, and technological resources within the district.

Element 3.3: Candidates understand and can promote district-level policies and procedures that protect the welfare and safety of students and staff across the district.

Element 3.4: Candidates understand and can develop district capacity for distributed leadership.

Element 3.5: Candidates understand and can ensure that district time focuses on supporting high-quality school instruction and student learning.

Standard 4. A district-level education leader applies knowledge that promotes the success of every student by collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources for the district by collecting and analyzing information pertinent to improvement of the district's educational environment; promoting an understanding, appreciation, and use of the community's diverse cultural, social, and intellectual resources throughout the district; building and sustaining positive district relationships with families and caregivers; and cultivating productive district relationships

with community partners.

Element 4.1: Candidates understand and can collaborate with faculty and community members by collecting and analyzing information pertinent to the improvement of the district's educational environment.

Element 4.2: Candidates understand and can mobilize community resources by promoting understanding, appreciation, and use of the community's diverse cultural, social, and intellectual resources throughout the district.

Element 4.3: Candidates understand and can respond to community interests and needs by building and sustaining positive district relationships with families and caregivers.

Element 4.4: Candidates understand and can respond to community interests and needs by building and sustaining productive district relationships with community partners.

Standard 5. A district-level education leader applies knowledge that promotes the success of every student by acting with integrity, fairness, and in an ethical manner to ensure a district system of accountability for every student's academic and social success by modeling district principles of self-awareness, reflective practice, transparency, and ethical behavior as related to their roles within the district; safeguarding the values of democracy, equity, and diversity within the district; evaluating the potential moral and legal consequences of decision making in the district; and promoting social justice within the district to ensure individual student needs inform all aspects of schooling.

Element 5.1: Candidates understand and can act with integrity and fairness to ensure a district system of accountability for every student's academic and social success.

Element 5.2: Candidates understand and can model principles of self-awareness, reflective practice, transparency, and ethical behavior as related to their roles within the district.

Element 5.3: Candidates understand and can safeguard the values of democracy, equity, and diversity within the district.

Element 5.4: Candidates understand and can evaluate the potential moral and legal consequences of decision making in the district.

Element 5.5: Candidates understand and can promote social justice within the district to ensure individual student needs inform all aspects of schooling.

Standard 6. A district-level education leader applies knowledge that promotes the success of every student by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context within the district through advocating for district students, families, and caregivers; acting to influence local, district, state, and national decisions affecting student learning; and anticipating and assessing emerging trends and initiatives in order to adapt district-level leadership strategies.

Element 6.1: Candidates understand and can advocate for district students, families, and caregivers.

Element 6.2: Candidates understand and can act to influence district, state, and national decisions affecting student learning in a district environment.

Element 6.3: Candidates understand and can anticipate and assess emerging trends and initiatives in order to adapt district-level leadership strategies.

Standard 7. A district-level education leader applies knowledge that promotes the success of every student in a substantial and sustained educational leadership standards-based internship experience that has district-based field experience and clinical practice within a district setting and is monitored by a qualified, on-site mentor.

Element 7.1: Substantial Experience: The program provides significant field experiences and clinical internship practice for candidates within a district environment to synthesize and apply the content knowledge and develop professional skills identified in the other *Educational Leadership District-Level Program Standards* through authentic, district-based leadership experiences.

Element 7.2: Sustained Experience: Candidates are provided a one-semester concentrated (9-12 hours per week) internship that includes field experiences within a district environment.

Element 7.3: Qualified On-Site Mentor: An on-site district mentor is one who has demonstrated successful experience as an educational leader at the district level and is selected collaboratively by the intern and program faculty, and has participated in mentor training provided by the supervising institution.

~~Through the courses identified in its plan, the institution should prepare prospective superintendents to:~~

~~A. Facilitate the development, articulation, implementation and stewardship of a vision of learning in a collaborative manner with the school community, including being able to:~~

~~1. Facilitate the development of a shared vision that focuses on teaching and~~

~~learning;~~

~~2. Facilitate the development and implementation of a strategic plan that focuses on teaching and learning;~~

~~3. Use motivational theory to create conditions that motivate staff, students, and families to achieve the school's vision;~~

~~4. Frame, analyze, and resolve problems using appropriate problem solving techniques and decision making skills;~~

~~5. Initiate, manage, and evaluate the change process;~~

~~6. Identify and critique several theories of leadership and their application to various school environments; and~~

~~7. Demonstrate knowledge of major historical, philosophical, ethical, social and economic influences affecting education in a democratic society.~~

~~B. Utilize information, frame problems, and exercise ethical leadership processes to achieve goals, including being able to:~~

~~1. Demonstrate a professional code of ethics and values;~~

~~2. Conduct needs assessment by collecting information on the students; on staff and the school environment; on family and community values, expectations and priorities;~~

~~3. Use qualitative and quantitative data to:~~

~~a. Make informed decisions,~~

~~b. Plan and assess school programs,~~

~~c. Design accountability systems,~~

~~d. Plan for school improvement, and~~

~~e. Develop and conduct research;~~

~~4. Engage staff in an ongoing study of current best practices and relevant research and demographic data, and analyze their implications for school improvement;~~

~~5. Describe national and global conditions affecting schools and their impact on a local district; and~~

~~6. Analyze and interpret educational data, issues, and trends; and outline possible actions and implications for boards, committees, and other groups.~~

~~C. Demonstrate an understanding of and be able to apply principles of curriculum, instruction, supervision, and the learning environment , including being able to:~~

~~1. Create with principals, teachers, parents and students a positive school culture that promotes the highest student achievement in a pluralistic society;~~

~~2. Develop collaboratively a learning organization that supports instructional improvements, builds and appropriate curriculum, and incorporates best practice;~~

~~3. Base curricular decisions on research, applied theory, informed practice, the recommendations of learned societies, and state and federal policies and mandates;~~

4. ~~Facilitate curriculum design which promotes learning for all students with consideration for philosophical, sociological, and historical foundations, democratic values, and the community's values, goals, social needs and changing conditions;~~
5. ~~Facilitate alignment of content standards with curricular and instructional goals and desired objectives and desired outcomes when developing scope, sequence, and balance;~~
6. ~~Develop with others curriculum and instruction appropriate for varied teaching and learning styles and specific student needs;~~
7. ~~Utilize a variety of supervisory models to improve teaching and learning;~~
8. ~~Use effective staffing patterns, student grouping plans, class scheduling, school organizational structures, and facilities design processes, to support various teaching strategies and desired student outcomes; and~~
9. ~~Assess student progress using a variety of appropriate techniques.~~

~~D. Demonstrate an understanding of and be able to apply principles of professional development and human resource management, including being able to:~~

1. ~~Work with faculty, staff, students, and other constituencies from all cultural and ethnic groups to identify needs for professional development; to organize, facilitate, and evaluate professional development programs; to integrate district and school priorities; to build faculty as resource persons; and to ensure that professional development activities focus on improving student achievement;~~
2. ~~Apply adult learning strategies to professional development, focusing on authentic problems and tasks, and utilizing mentoring, coaching, conferencing and other techniques to ensure that knowledge and skills are effective;~~
3. ~~Apply effective job analysis procedures, supervisory techniques and performance appraisal for instructional and support staff;~~
4. ~~Formulate and implement a personal professional development plan, endorsing the value of career-long growth, and utilizing a variety of resources for continuing professional development;~~
5. ~~Identify and apply equitable policies, criteria and processes for the recruitment, selection, induction, retention, compensation and separation of personnel, with attention to diversity; and~~
6. ~~Negotiate and manage effectively collective bargaining or written agreements.~~

~~E. Demonstrate an understanding of and be able to apply principles of student personnel services, including being able to:~~

1. ~~Apply the principles of student growth and development to the teaching and learning environment and the educational program;~~
2. ~~Develop with the guidance and teaching staff a full program of student services;~~
3. ~~Develop and administer policies that promote student health and services in a safe~~

~~and secure environment, including being able to:~~

~~a. Describe the characteristics of schools that are safe and responsive to all children;~~

~~b. Describe early warning signs of potential violence to staff and others;~~

~~c. Describe principles of intervention for troubled students, staff, and other adults;~~

~~d. Develop and administer school wide policies that support responsible behavior;~~

~~e. Develop violence prevention and response plans;~~

~~f. Analyze the principles underlying a crisis response plan;~~

~~g. Develop a comprehensive approach to preventing injuries and accidents; and~~

~~h. Develop policies for the development, implementation, and evaluation of school safety/security plans.~~

~~4. Recognize student and family conditions affecting learning by collaborating with community agencies to integrate services for students from diverse cultural and ethnic groups; and~~

~~5. Plan and manage student activity programs working with staff, students, families, and community to foster student development.~~

~~F. Demonstrate an understanding of and be able to apply the principles of organizational leadership, including being able to:~~

~~1. Establish operational plans and processes to accomplish strategic goals;~~

~~2. Analyze schools as interactive internal systems operating within external environments;~~

~~3. Monitor and evaluate progress towards strategic goal attainment and adjust as necessary;~~

~~4. Use appropriate interpersonal skills;~~

~~5. Use appropriate written, verbal, and nonverbal communication in a variety of situations;~~

~~6. Demonstrate and promote multi-cultural awareness, gender sensitivity, and racial and ethnic appreciation;~~

~~7. Apply counseling, mentoring, stress management, and conflict management skills;~~

~~8. Identify and analyze the major sources of fiscal and non-fiscal resources for schools and school districts;~~

~~9. Acquire, manage, and allocate fiscal and non-fiscal resources;~~

~~10. Develop an efficient budget planning process that is driven by district priorities and involves staff and community;~~

~~11. Perform financial management functions including planning, monitoring, and accounting;~~

~~12. Use technological information systems to enrich curriculum and instruction;~~

~~13. Use and evaluate current technologies for school administrative procedures; and~~

~~14. Develop, implement, and monitor long range plans for district technology systems.~~

~~G. Demonstrate an understanding of and be able to apply the principles of political and community leadership, including being able to:~~

~~1. Analyze community and district power structures, and identify major opinion leaders and their relationship to school goals and programs;~~

~~2. Articulate the district's or school's vision, mission and priorities to the community and media, and build community support for district or school priorities and programs;~~

~~3. Communicate and act effectively and equitably with various cultural, ethnic, racial, and special interest groups in the community;~~

~~4. Involve family and community in appropriate policy development, program planning, and assessment processes to ensure the school and community serve one another as resources;~~

~~5. Develop an effective and interactive staff communications plan and community relations program;~~

~~6. Apply knowledge of federal and state constitutional, statutory and regulatory provisions and judicial decisions governing education;~~

~~7. Apply knowledge of common law and contractual requirements and procedures in an educational setting;~~

~~8. Define and relate the general characteristics of internal and external political systems as they apply to school settings;~~

~~9. Describe the processes by which federal, state, district, and school-site policies are formulated, enacted, implemented and evaluated, and develop strategies for influencing policy development;~~

~~10. Relate public policy initiatives to student welfare;~~

~~11. Make decisions based on the moral and ethical implications of policy options and political strategies;~~

~~12. Analyze the major intellectual, social, political, and economic trends and their impact on school contexts; and~~

~~13. Develop appropriate procedures and relationships for working with local governing boards.~~

006.10 Biology

006.10A. Grade Levels: 7-12

006.10B Endorsement Type: Subject

006.10C Persons with this endorsement may teach any biology course in grades 7 through 12.

006.10D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 semester hours of laboratory based courses in the natural sciences (biology, chemistry, ~~e~~Earth and space science, and physics), of which 24 semester hours must be in biology and a minimum of 12 semester hours of laboratory based courses among the remaining three natural sciences areas. A laboratory-based course provides activity-based, hands-on experience for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.

006.10E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

THE FOLLOWING ARE RECOMMENDED GUIDELINES FOR INCLUSION AS PART OF THE INSTITUTION'S PLAN UNDER THIS ENDORSEMENT.

Through the courses identified in its plan, the institution must provide biology teacher candidates with opportunities to demonstrate the dispositions and competencies required by the following guidelines, based on National Science Teachers Association Standards (2011).

Secondary science teachers will be prepared with depth and breadth in the content of a given field. The major divisions of the natural sciences are biology, chemistry, the Earth and space sciences, and physics. All teachers licensed in a given discipline should know, understand, and teach with the breadth of understanding reflected in the core competencies for that discipline.

Candidates will combine scientific processes and knowledge with scientific reasoning and critical thinking to ask questions about phenomena and propose explanations based on gathered evidence. Specialists in a discipline will also have achieved the

advanced competencies for that discipline and supporting competencies from related disciplines.

Standard 1. **Content Knowledge -** Effective teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and application in their fields of licensure. Candidates will:

Element 1. Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.

Element 2. Understand the central concepts of the supporting disciplines.

Element 3. Show an understanding of state and national curriculum standards and their impact on the content knowledge necessary for teaching P-12 students.

Element 4. Core Competencies. All teachers of biology will lead students to understand:

A. Life processes in living systems including organization of matter and energy;

B. Similarities and differences among animals, plants, fungi, microorganisms, and viruses.;

C. Ecological systems including the interrelationships and dependencies of organisms with each other and their environments;

D. Population dynamics and the impact of population on its environment;

E. General concepts of genetics and heredity;

F. Organizations and functions of cells and multi-cellular systems;

G. Behavior of organisms and their relationships to social systems;

H. Regulation of biological systems including homeostatic mechanisms;

I. Fundamental processes of modeling and investigating in the biological sciences;

J. Applications of biology in environmental quality and in personal and community health;

K. Bioenergetics including major biochemical pathways;

L. Molecular genetics and heredity and mechanisms of genetic modification;

M. Molecular basis for evolutionary theory and classification;

N. Principles and practices of biological classification;

O. Scientific theory and principles of biological evolution;

P. How the stability of an ecosystem is increased by biological diversity; and

Q. Applications of biology and biotechnology in society business, industry, and health fields.

Element 5. Advanced Competencies. In addition to these core competencies, teachers of biology as a primary field will be prepared to effectively lead students to understand:

A. Biochemical interactions of organisms and their environments;

B. Causes, characteristics and avoidance of viral, bacterial, and parasitic diseases;

C. Molecular genetics;

D. Issues related to living systems such as genetic modification, uses of biotechnology, cloning, and pollution from farming;

E. Historical development and perspectives in biology including contributions of significant figures and underrepresented groups, and the evolution of theories in biology; and

F. How to design, conduct, and report research in biology;

G. Multiple ways to organize perceptions of the world and how systems organize the studies and knowledge of science;

H. Nature of scientific evidence and the use of models for explanation;

I. Measurement as a way of knowing and organizing observations of constancy and change;

J. Evolution of natural systems and factors that result in evolution or equilibrium; and

K. Interrelationships of form, function, and behaviors in living and nonliving systems.

Element 6. Supporting Competencies. All teachers of biology will also be prepared to effectively apply concepts from other sciences and mathematics to the teaching of biology including basic concepts of:

A. Chemistry including general chemistry, biochemistry and basic laboratory techniques;

B. Physics including light, sound, optics, electricity, energy and order, and magnetism;

C. Earth and space sciences including energy and geochemical cycles, climate, oceans, weather, natural resources, and changes in the Earth; and

D. Mathematics, including probability and statistics.

Element 7. All secondary teachers will also be prepared to lead students to understand the unifying concepts of science, including:

A. Multiple ways to organize perceptions of the world and how systems organize the studies and knowledge of science;

B. Nature of scientific evidence and the use of models for explanation;

C. Measurement as a way of knowing and organizing observations of constancy and change;

D. Evolution of natural systems and factors that result in evolution or equilibrium; and

E. Interrelationships of form, function, and behaviors in living and nonliving systems.

Standard 2: Content Pedagogy – Effective teachers of science understand how students learn and develop scientific knowledge. Candidates use scientific inquiry to develop this knowledge. Candidates will:

Element 1. Plan multiple lessons using a variety of inquiry approaches that demonstrate their knowledge and understanding of how students learn science.

Element 2. Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences.

Element 3. Design instruction and assessment strategies that confront and address naïve concepts/preconceptions.

Standard 3: **Learning Environments** - Effective teachers of science are able to plan for engaging students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with state and national standards. The plans reflect the nature and social context of science, inquiry, and appropriate safety considerations. Candidates design and select learning activities, instructional settings, and resources--including technology, to achieve those goals; and they plan fair and equitable assessment strategies to evaluate if the learning goals are met. Candidates will:

Element 1. Use a variety of strategies that demonstrate the candidates' knowledge and understanding of how to select the appropriate teaching and learning activities – including laboratory or field settings - to help all students learn.

Element 2. Plans include active inquiry lessons where students collect and interpret data in order to develop concepts, understand scientific processes, relationships and natural patterns from empirical experiences.

Element 3. Plan fair and equitable assessment strategies to analyze student learning and to evaluate if the learning goals are met. Assessment strategies are designed to continuously evaluate preconceptions and ideas that students hold and the understandings that students have formulated.

Element 4. Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area.

Standard 4: **Safety** - Effective teachers of science can, in a P-12 classroom setting, demonstrate and maintain chemical safety, safety procedures, and the ethical treatment of living organisms needed in the P-12 science classroom appropriate to their area of licensure. Candidates will:

Element 1. Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction.

Element 2. Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines.

Candidates ensure safe science activities appropriate for the abilities of all students.

Element 3. Design and demonstrate activities in a P-12 classroom that demonstrate ethical decision-making with respect to the treatment of all living organisms in and out of the classroom. They emphasize safe, humane, and ethical treatment of animals and comply with the legal restrictions on the collection, keeping, and use of living organisms.

Standard 5: Impact on Student Learning - Effective teachers of science provide evidence to show that P-12 students' understanding of major science concepts, principles, theories, and laws have changed as a result of instruction by the candidate and that student knowledge is at a level of understanding beyond memorization. Candidates will:

Element 1. Collect, organize, analyze, and reflect on diagnostic, formative and summative evidence of a change in mental functioning demonstrating that scientific knowledge is gained and/or corrected.

Element 2. Provide data to show that P-12 students are able to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertion made in the name of science.

Element 3. Engage students in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.

Standard 6: Professional Knowledge and Skills - Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content and science pedagogy. They identify with and conduct themselves as part of the science education community. Candidates will:

Element 1. Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.

Element 2. Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.

~~Through the courses identified in its plan, the institution should prepare prospective teachers to be able to:~~

~~A. Demonstrate knowledge and understanding of and be able to teach the concepts, skills and processes of science as defined in the Nebraska Content Standards for eighth and twelfth grades. Preparation for subject endorsements will not include the same level of depth of understanding as the Natural Science endorsement. Demonstrate the appropriate depth of understanding of the subject area endorsement.~~

~~B. Design and manage safe and supportive learning environments reflecting high expectations for the success of all students, including being able to:~~

~~1. Manage physical spaces within which science learning occurs;~~

~~2. Demonstrate proper treatment and ethical use of living organisms; and~~

~~3. Demonstrate safety in all areas related to science instruction;~~

~~C. Relate science to the community and to use human and institutional resources in the community to advance the education of their students in science, including being able to:~~

~~1. Utilize social and community support networks;~~

~~2. Relate science teaching and learning to the needs and values of the community; and~~

~~3. Involve people and institutions from the community in the teaching of science;~~

~~D. Apply the unifying concepts and processes that help students think about and integrate a range of basic ideas which build an understanding of the natural world, including:~~

~~1. Systems, order and organization;~~

~~2. Evidence, models and explanation;~~

~~3. Change, constancy and measurement;~~

~~4. Evolution and equilibrium; and~~

~~5. Form and function;~~

~~E. Apply the processes of scientific inquiry, including the ability to:~~

~~1. Identify questions and concepts that guide scientific investigations;~~

~~2. Design and conduct scientific investigations;~~

~~3. Use appropriate tools and techniques to gather, analyze and interpret data;~~

4. ~~Develop descriptions, explanations, predictions and models using evidence;~~
5. ~~Think critically and logically to make relationships between evidence and explanation;~~
6. ~~Recognize and analyze alternative explanations and models;~~
7. ~~Communicate and defend a scientific argument; and~~
8. ~~Understand the unique characteristics of scientific inquiry;~~

~~F. Apply physical science facts, concepts, principles, theories and models, including:~~

1. ~~Structure and properties of the atom;~~
2. ~~Structure and properties of matter;~~
3. ~~Chemical reactions;~~
4. ~~Motions and forces;~~
5. ~~Conservation of energy and increase in disorder; and~~
6. ~~Interactions of energy and matter;~~

~~G. Apply life science facts, concepts, principles, theories and models, including:~~

1. ~~The cell;~~
2. ~~Molecular basis of heredity;~~
3. ~~Biological evolution;~~
4. ~~Interdependence of organisms;~~
5. ~~Matter, energy and organization in human and other living systems; and~~
6. ~~Behavior of organisms;~~

~~H. Apply earth and space science facts, concepts, principles, theories and models, including:~~

1. ~~Structure of the earth system;~~
2. ~~Earth's history;~~
3. ~~Earth in the solar system;~~
4. ~~Energy in the earth system;~~
5. ~~Geochemical cycles;~~
6. ~~Origin and evolution of the earth system; and~~

7. ~~Origin and evolution of the universe;~~

I. ~~Establish connections between the natural and designed world, linking science and technology, including being able to:~~

1. ~~Plan, create or modify, and evaluate a technological solution to a scientific problem;~~
2. ~~Describe the relationship between science and technology, including the cyclical relationship for advancement; and~~
3. ~~Demonstrate an understanding of the interdisciplinary nature of science as it approaches human problems, e.g., engineering, geophysics and biochemistry;~~

J. ~~Apply science concepts, principles, and processes to personal and social decision making, including:~~

1. ~~Personal and community health;~~
2. ~~Population growth;~~
3. ~~Natural resources;~~
4. ~~Environmental quality;~~
5. ~~Natural and human-induced hazards; and~~
6. ~~Science and technology in local, national, and global challenges, and~~

K. ~~Demonstrate an understanding of the history and nature of science, including:~~

1. ~~An understanding of science as a human endeavor, including the ability to:~~
   a. ~~Describe significant scientists, including individuals from both genders, and of different races and ethnic groups;~~
   b. ~~Describe the societal, cultural, and personal beliefs that influence scientists; and~~
   c. ~~Demonstrate the nature and practice of scientists, for example, ethical behaviors, peer review, truthful reporting, public disclosure;~~
2. ~~The nature of scientific knowledge; and~~
3. ~~The history of science.~~

006.13 Chemistry

006.13A Grade Levels: 7 – 12

006.13B Endorsement Type: Subject

006.13C Persons with this endorsement may teach any chemistry course in grades 7 through 12.

006.13D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 semester hours of laboratory based courses in the natural sciences (biology, chemistry, ~~e~~Earth and space science, and physics), of which 24 semester hours must be in chemistry and a minimum of 12 semester hours of laboratory based courses among the remaining three natural sciences areas. A laboratory-based course provides activity-based, hands-on experience for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.

006.13E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

THE FOLLOWING ARE RECOMMENDED GUIDELINES FOR INCLUSION AS PART OF THE INSTITUTION'S PLAN UNDER THIS ENDORSEMENT.

Through the courses identified in its plan, the institution must provide chemistry teacher candidates with opportunities to demonstrate the dispositions and competencies required by the following guidelines, based on National Science Teachers Association Standards (2011).

Secondary science teachers will be prepared with depth and breadth in the content of a given field. The major divisions of the natural sciences are biology, chemistry, Earth and space science, and physics. All teachers licensed in a given discipline should know, understand, and teach with the breadth of understanding reflected in the core competencies for that discipline.

Candidates will combine scientific processes and knowledge with scientific reasoning and critical thinking to ask questions about phenomena and propose explanations based on gathered evidence. Specialists in a discipline should also have achieved the

advanced competencies for that discipline and supporting competencies from related disciplines.

Standard 1. Content Knowledge – Effective teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and application in their fields of licensure. Candidates will:

Element 1. Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.

Element 2. Understand the central concepts of the supporting disciplines.

Element 3. Show an understanding of state and national curriculum standards and their impact on the content knowledge necessary for teaching P-12 students.

Element 4. Core Competencies. All teachers of chemistry will lead students to understand:

A. Fundamental structures of atoms and molecules;

B. Basic principles of ionic, covalent, and metallic bonding;

C. Periodicity of physical and chemical properties of elements;

D. Laws of conservation of matter and energy;

E. Fundamentals of chemical kinetics, equilibrium, and thermodynamics;

F. Kinetic molecular theory and gas laws;

G. Mole concept, stoichiometry, and laws of composition;

H. Solutions, colloids, and colligative properties;

I. Acids/base chemistry;

J. Fundamental oxidation-reduction chemistry, fundamental organic chemistry and biochemistry;

K. Fundamental biochemistry;

L. Nature of Science and the fundamental processes in chemistry;

M. Applications of chemistry in personal and community health and environmental quality;

N. Fundamentals of nuclear chemistry; and

O. Historical development and perspectives in chemistry

Element 5. Advanced Competencies. In addition to the core competencies, teachers of chemistry as a primary field will be prepared to effectively lead students to understand:

A. Principles of electrochemistry;

B. Transition elements and coordination compounds;

C. Molecular orbital theory, aromaticity, metallic and ionic structures, and correlation to properties of matter;

D. Advanced concepts in chemical kinetics, equilibrium, gas laws, and thermodynamics;

E. Lewis structures and molecular geometry;

F. Advanced concepts in acid/base chemistry, including buffers;

G. Major biological compounds and reactions;

H. Solvent system concepts;

I. Chemical reactivity and molecular structure including electronic and steric effects;

J. Organic chemistry;

K. Green chemistry and sustainability;

L. How to design, conduct, and report research in chemistry; and

M. Applications of chemistry and chemical technology in society, business, industry, and health fields.

Element 6. Supporting Competencies. All teachers of chemistry will be prepared to effectively apply concepts from other sciences and mathematics to the teaching of chemistry including:

A. Biology, including molecular biology, bioenergetics, and ecology;

B. Earth science, including geochemistry, cycles of matter, and energetics of Earth systems;

C. Physics, including energy, stellar evolution, properties and functions of waves, motions and forces, electricity, and magnetism; and

D. Mathematical and statistical concepts including the use of statistics, of differential equations and of calculus.

Element 7. All secondary teachers will also be prepared to lead students to understand the unifying concepts of science, including:

A. Multiple ways to organize perceptions of the world and how systems organize the studies and knowledge of science;

B. Nature of scientific evidence and the use of models for explanation;

C. Measurement as a way of knowing and organizing observations of constancy and change;

D. Evolution of natural systems and factors that result in evolution or equilibrium; and

E. Interrelationships of form, function, and behaviors in living and nonliving systems.

Standard 2. Content Pedagogy – Effective teachers of science understand how students learn and develop scientific knowledge. Candidates use scientific inquiry to develop this knowledge. Candidates will:

Element 1. Plan multiple lessons using a variety of inquiry approaches that demonstrate their knowledge and understanding of how students learn science.

Element 2. Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences.

Element 3. Design instruction and assessment strategies that confront and address naïve concepts/preconceptions.

Standard 3. Learning Environments – Effective teachers of science are able to plan for engaging students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with state and national standards. The plans reflect the nature and social context of science, inquiry, and appropriate safety considerations. Candidates design and select learning activities, instructional settings, and resources--including technology, to achieve those goals; and they plan fair and equitable assessment strategies to evaluate if the learning goals are met. Candidates will:

Element 1. Use a variety of strategies that demonstrate the candidates' knowledge and understanding of how to select the appropriate teaching and learning activities – including laboratory or field settings - to help all students learn.

Element 2. Plans include active inquiry lessons where students collect and interpret data in order to develop concepts, understand scientific processes, relationships and natural patterns from empirical experiences.

Element 3. Plan fair and equitable assessment strategies to analyze student learning and to evaluate if the learning goals are met. Assessment strategies are designed to continuously evaluate preconceptions and ideas that students hold and the understandings that students have formulated.

Element 4. Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area.

Standard 4. Safety – Effective teachers of science can, in a P-12 classroom setting, demonstrate and maintain chemical safety, safety procedures, and the

ethical treatment of living organisms needed in the P-12 science classroom appropriate to their area of licensure. Candidates will:

Element 1. Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction.

Element 2. Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines. Candidates ensure safe science activities appropriate for the abilities of all students.

Element 3. Design and demonstrate activities in a P-12 classroom that demonstrate ethical decision-making with respect to the treatment of all living organisms in and out of the classroom. They emphasize safe, humane, and ethical treatment of animals and comply with the legal restrictions on the collection, keeping, and use of living organisms.

Standard 5. Impact on Student Learning – Effective teachers of science provide evidence to show that P-12 students' understanding of major science concepts, principles, theories, and laws have changed as a result of instruction by the candidate and that student knowledge is at a level of understanding beyond memorization. Candidates will:

Element 1. Collect, organize, analyze, and reflect on diagnostic, formative and summative evidence of a change in mental functioning demonstrating that scientific knowledge is gained and/or corrected.

Element 2. Provide data to show that P-12 students are able to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertion made in the name of science.

Element 3. Engage students in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.

Standard 6. Professional Knowledge and Skills – Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content and science pedagogy. They identify with and conduct themselves as part of the science education community. Candidates will:

Element 1. Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.

Element 2. Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.

~~Through the courses identified in its plan, the institution should prepare prospective teachers to be able to:~~

~~A. Demonstrate knowledge and understanding of and be able to teach the concepts, skills and processes of science as defined in the Nebraska Content Standards for eighth and twelfth grades. Preparation for subject endorsements will not include the same level of depth of understanding as the Natural Science endorsement. Demonstrate the appropriate depth of understanding of the subject area endorsement.~~

~~B. Design and manage safe and supportive learning environments reflecting high expectations for the success of all students, including being able to:~~

~~1. Manage physical spaces within which science learning occurs;~~

~~2. Demonstrate proper treatment and ethical use of living organisms; and~~

~~3. Demonstrate safety in all areas related to science instruction;~~

~~C. Relate science to the community and to use human and institutional resources in the community to advance the education of their students in science, including being able to:~~

~~1. Utilize social and community support networks;~~

~~2. Relate science teaching and learning to the needs and values of the community; and~~

~~3. Involve people and institutions from the community in the teaching of science;~~

~~D. Apply the unifying concepts and processes that help students think about and integrate a range of basic ideas which build an understanding of the natural world, including:~~

~~1. Systems, order and organization;~~

~~2. Evidence, models and explanation;~~

~~3. Change, constancy and measurement;~~

~~4. Evolution and equilibrium; and~~

~~5. Form and function;~~

~~E. Apply the processes of scientific inquiry, including the ability to:~~

~~1. Identify questions and concepts that guide scientific investigations;~~

~~2. Design and conduct scientific investigations;~~

~~3. Use appropriate tools and techniques to gather, analyze and interpret data;~~

~~4. Develop descriptions, explanations, predictions and models using evidence;~~

5. ~~Think critically and logically to make relationships between evidence and explanation;~~
6. ~~Recognize and analyze alternative explanations and models;~~
7. ~~Communicate and defend a scientific argument; and~~
8. ~~Understand the unique characteristics of scientific inquiry;~~

~~F. Apply physical science facts, concepts, principles, theories and models, including:~~

1. ~~Structure and properties of the atom;~~
2. ~~Structure and properties of matter;~~
3. ~~Chemical reactions;~~
4. ~~Motions and forces;~~
5. ~~Conservation of energy and increase in disorder; and~~
6. ~~Interactions of energy and matter;~~

~~G. Apply life science facts, concepts, principles, theories and models, including:~~

1. ~~The cell;~~
2. ~~Molecular basis of heredity;~~
3. ~~Biological evolution;~~
4. ~~Interdependence of organisms;~~
5. ~~Matter, energy and organization in a human and other living systems; and~~
6. ~~Behavior of organisms;~~

~~H. Apply earth and space science facts, concepts, principles, theories and models, including:~~

1. ~~Structure of the earth system;~~
2. ~~Earth's history;~~
3. ~~Earth in the solar system;~~
4. ~~Energy in the earth system;~~
5. ~~Geochemical cycles;~~
6. ~~Origin and evolution of the earth system; and~~
7. ~~Origin and evolution of the universe;~~

~~I. Establish connections between the natural and designed world, linking science and technology, including being able to:~~

1. ~~Plan, create or modify, and evaluate a technological solution to a scientific problem;~~

2. ~~Describe the relationship between science and technology, including the cyclical relationship for advancement; and~~
3. ~~Demonstrate an understanding of the interdisciplinary nature of science as it approaches human problems, e.g., engineering, geophysics and biochemistry;~~

J. ~~Apply science concepts, principles, and processes to personal and social decision making, including:~~

1. ~~Personal and community health;~~
2. ~~Population growth;~~
3. ~~Natural resources;~~
4. ~~Environmental quality;~~
5. ~~Natural and human-induced hazards; and~~
6. ~~Science and technology in local, national, and global challenges, and~~

K. ~~Demonstrate an understanding of the history and nature of science, including:~~

1. ~~An understanding of science as a human endeavor, including the ability to:~~
   a. ~~Describe significant scientists, including individuals from both genders, and of different races and ethnic groups;~~
   b. ~~Describe the societal, cultural, and personal beliefs that influence scientists; and~~
   c. ~~Demonstrate the nature and practice of scientists, for example, ethical behaviors, peer review, truthful reporting, public disclosure;~~
2. ~~The nature of scientific knowledge; and~~
3. ~~The history of science.~~

006.19 Earth and Space Science

006.19A Grade Levels: 7-12

006.19B Endorsement Type: Subject

006.19C Persons with this endorsement may teach any ~~e~~Earth and space science course in grades 7 through 12.

006.19D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 semester hours of laboratory based courses in the natural sciences (biology, chemistry, ~~e~~Earth and space science, and physics), of which 24 semester hours must be in ~~e~~Earth and space science and a minimum of 12 semester hours of laboratory based courses among the remaining three natural sciences areas. A laboratory-based course provides activity-based, hands-on experience for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.

006.19E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

THE FOLLOWING ARE RECOMMENDED GUIDELINES FOR INCLUSION AS PART OF THE INSTITUTION'S PLAN UNDER THIS ENDORSEMENT.

Through the courses identified in its plan, the institution must provide Earth and space science teacher candidates with opportunities to demonstrate the dispositions and competencies required by the following guidelines, based on National Science Teachers Association Standards (2011).

Secondary science teachers will be prepared with depth and breadth in the content of a given field. The major divisions of the natural sciences are biology, chemistry, Earth and space science, and physics. All teachers licensed in a given discipline should know, understand, and teach with the breadth of understanding reflected in the core competencies for that discipline.

Candidates will combine scientific processes and knowledge with scientific reasoning and critical thinking to ask questions about phenomena and propose explanations based on gathered evidence. Specialists in a discipline should also have achieved the

advanced competencies for that discipline and supporting competencies from related disciplines.

Standard 1. **Content Knowledge –** Effective teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and application in their fields of licensure. Candidates will:

Element 1. Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.

Element 2. Understand the central concepts of the supporting disciplines.

Element 3. Show an understanding of state and national curriculum standards and their impact on the content knowledge necessary for teaching P-12 students.

Element 4. Core Competencies. All teachers of Earth and space sciences will lead students to understand the unifying concepts required of all teachers of science, and will also be prepared to lead students to understand the following core competencies:

A. Characteristics of land, atmosphere, and ocean systems on Earth;

B. Properties, measurement, and classification of Earth materials;

C. Changes in Earth including land formation and erosion;

D. Geochemical cycles including biotic and abiotic systems;

E. Energy flow and transformation in Earth systems;

F. Internal and external sources of heat energy in Earth's systems;

G. Hydrological features of Earth;

H. Patterns and changes in the atmosphere, weather, and climate;

I. How heat convection in the mantle propels the plates comprising Earth's surface across the face of the globe (Plate Tectonics);

J. Origin, evolution, and planetary behaviors of Earth;

K. Compare and contrast the physical and biological differences of early Earth with the planet we live on today;

L. Origin, evolution, and properties of the universe;

M. Fundamental processes of investigating in Earth and space sciences;

N. Sources and limits of natural resources; and

O. Applications of Earth and space sciences to environmental quality and to personal and community health and welfare;

Element 5. Advanced Competencies. In addition to the core competencies, teachers of Earth and space science as a primary field will be prepared to effectively lead students to understand:

A. Gradual and catastrophic changes in Earth;

B. Oceans and their relationship to changes in atmosphere and climate;

C. Hydrological cycles and problems of distribution and use of water;

D. Dating of Earth and other objects in the universe;

E. Recognition that in any sequence of sediments or rocks that has not been overturned, the youngest sediments or rocks are at the top of the sequence and the oldest are at the bottom (law of superposition);

F. Interpreting Earth's history by observing rock sequences, using fossils to correlate the sequences at various locations, and using data from radioactive dating methods;

G. Structures and interactions of energy and matter in the universe;

H. Impact of changes in earth on the evolution and distribution of living things;

I. Issues related to changes in Earth systems such as global climate change, mine subsidence, and channeling of waterways;

J. Historical development and perspectives in Earth and space sciences, including contributions of significant figures and underrepresented groups, and the evolution of theories in the fields of Earth and space sciences;

K. How to design, conduct, and report research in Earth and space sciences; and

L. Applications of Earth and space sciences and related technologies in society, business, industry, and health fields.

Element 6. Supporting Competencies. All teachers of Earth and space science will also be prepared to effectively apply concepts from other sciences and mathematics to the teaching of Earth and space sciences including basic concepts of:

A. Biology, including evolution, ecology, population dynamics, and the flow of energy and materials through Earth systems;

B. Chemistry, including broad concepts and basic laboratory techniques of inorganic and organic chemistry, physical chemistry, and biochemistry;

C. Physics, including electricity, forces and motion, energy, magnetism, thermodynamics, optics, and sound; as well as basic quantum theory; and

D. Mathematics, including statistics and probability.

Element 7. All secondary teachers will also be prepared to lead students to understand the unifying concepts of science, including:

A. Multiple ways to organize perceptions of the world and how systems organize the studies and knowledge of science;

B. Nature of scientific evidence and the use of models for explanation;

C. Measurement as a way of knowing and organizing observations of constancy and change;

D. Evolution of natural systems and factors that result in evolution or equilibrium; and

E. Interrelationships of form, function, and behaviors in living and nonliving systems.

Standard 2. **Content Pedagogy –** Effective teachers of science understand how students learn and develop scientific knowledge. Candidates use scientific inquiry to develop this knowledge. Candidates will:

Element 1. Plan multiple lessons using a variety of inquiry approaches that demonstrate their knowledge and understanding of how students learn science.

Element 2. Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences.

Element 3. Design instruction and assessment strategies that confront and address naïve concepts/preconceptions.

Standard 3. **Learning Environments –** Effective teachers of science are able to plan for engaging students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with state and national standards. The plans reflect the nature and social context of science, inquiry, and appropriate safety considerations. Candidates design and select learning activities, instructional settings, and resources—including technology, to achieve those goals; and they plan fair and equitable assessment strategies to evaluate if the learning goals are met. Candidates will:

Element 1. Use a variety of strategies that demonstrate the candidates' knowledge and understanding of how to select the appropriate teaching and learning activities – including laboratory or field settings – to help all students learn.

Element 2. Plans include active inquiry lessons where students collect and interpret data in order to develop concepts, understand scientific processes, relationships and natural patterns from empirical experiences.

Element 3. Plan fair and equitable assessment strategies to analyze student learning and to evaluate if the learning goals are met. Assessment strategies are designed to continuously evaluate preconceptions and

ideas that students hold and the understandings that students have formulated.

Element 4. Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area.

Standard 4. **Safety –** Effective teachers of science can, in a P-12 classroom setting, demonstrate and maintain chemical safety, safety procedures, and the ethical treatment of living organisms needed in the P-12 science classroom appropriate to their area of licensure. Candidates will:

Element 1. Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction.

Element 2. Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines. Candidates ensure safe science activities appropriate for the abilities of all students.

Element 3. Design and demonstrate activities in a P-12 classroom that demonstrate ethical decision-making with respect to the treatment of all living organisms in and out of the classroom. They emphasize safe, humane, and ethical treatment of animals and comply with the legal restrictions on the collection, keeping, and use of living organisms.

Standard 5. **Impact on Student Learning –** Effective teachers of science provide evidence to show that P-12 students' understanding of major science concepts, principles, theories, and laws have changed as a result of instruction by the candidate and that student knowledge is at a level of understanding beyond memorization. Candidates will:

Element 1. Collect, organize, analyze, and reflect on diagnostic, formative and summative evidence of a change in mental functioning demonstrating that scientific knowledge is gained and/or corrected.

Element 2. Provide data to show that P-12 students are able to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertion made in the name of science.

Element 3. Engage students in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.

Standard 6. **Professional Knowledge and Skills –** Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content and science pedagogy. They identify with and conduct themselves as part of the science education community. Candidates will:

Element 1. Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.

Element 2. Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.

~~Through the courses identified in its plan, the institution should prepare prospective teachers to be able to:~~

~~A. Demonstrate knowledge and understanding of and be able to teach the concepts, skills and processes of science as defined in the Nebraska Content Standards for eighth and twelfth grades. Preparation for subject endorsements will not include the same level of depth of understanding as the Natural Science endorsement. Demonstrate the appropriate depth of understanding of the subject area endorsement.~~

~~B. Design and manage safe and supportive learning environments reflecting high expectations for the success of all students, including being able to:~~

~~1. Manage physical spaces within which science learning occurs;~~

~~2. Demonstrate proper treatment and ethical use of living organisms; and~~

~~3. Demonstrate safety in all areas related to science instruction;~~

~~C. Relate science to the community and to use human and institutional resources in the community to advance the education of their students in science, including being able to:~~

~~1. Utilize social and community support networks;~~

~~2. Relate science teaching and learning to the needs and values of the community; and~~

~~3. Involve people and institutions from the community in the teaching of science;~~

~~D. Apply the unifying concepts and processes that help students think about and integrate a range of basic ideas which build an understanding of the natural world, including:~~

~~1. Systems, order and organization;~~

~~2. Evidence, models and explanation;~~

~~3. Change, constancy and measurement;~~

~~4. Evolution and equilibrium; and~~

~~5. Form and function;~~

~~E. Apply the processes of scientific inquiry, including the ability to:~~

~~1. Identify questions and concepts that guide scientific investigations;~~

~~2. Design and conduct scientific investigations;~~

3. ~~Use appropriate tools and techniques to gather, analyze and interpret data;~~
4. ~~Develop descriptions, explanations, predictions and models using evidence;~~
5. ~~Think critically and logically to make relationships between evidence and explanation;~~
6. ~~Recognize and analyze alternative explanations and models;~~
7. ~~Communicate and defend a scientific argument; and~~
8. ~~Understand the unique characteristics of scientific inquiry;~~

F. ~~Apply physical science facts, concepts, principles, theories and models, including:~~

1. ~~Structure and properties of the atom;~~
2. ~~Structure and properties of matter;~~
3. ~~Chemical reactions;~~
4. ~~Motions and forces;~~
5. ~~Conservation of energy and increase in disorder; and~~
6. ~~Interactions of energy and matter;~~

G. ~~Apply life science facts, concepts, principles, theories and models, including:~~

1. ~~The cell;~~
2. ~~Molecular basis of heredity;~~
3. ~~Biological evolution;~~
4. ~~Interdependence of organisms;~~
5. ~~Matter, energy and organization in human and other living systems; and~~
6. ~~Behavior of organisms;~~

H. ~~Apply earth and space science facts, concepts, principles, theories and models, including:~~

1. ~~Structure of the earth system;~~
2. ~~Earth's history;~~
3. ~~Earth in the solar system;~~
4. ~~Energy in the earth system;~~
5. ~~Geochemical cycles;~~
6. ~~Origin and evolution of the earth system; and~~
7. ~~Origin and evolution of the universe;~~

I. ~~Establish connections between the natural and designed world, linking science and technology, including being able to:~~

1. ~~Plan, create or modify, and evaluate a technological solution to a scientific problem;~~
2. ~~Describe the relationship between science and technology, including the cyclical relationship for advancement; and~~
3. ~~Demonstrate an understanding of the interdisciplinary nature of science as it approaches human problems, e.g., engineering, geophysics and biochemistry;~~

J. ~~Apply science concepts, principles, and processes to personal and social decision making, including:~~

1. ~~Personal and community health;~~
2. ~~Population growth;~~
3. ~~Natural resources;~~
4. ~~Environmental quality;~~
5. ~~Natural and human-induced hazards; and~~
6. ~~Science and technology in local, national, and global challenges, and~~

K. ~~Demonstrate an understanding of the history and nature of science, including:~~

1. ~~An understanding of science as a human endeavor, including the ability to:~~
   a. ~~Describe significant scientists, including individuals from both genders, and of different races and ethnic groups;~~
   b. ~~Describe the societal, cultural, and personal beliefs that influence scientists; and~~
   c. ~~Demonstrate the nature and practice of scientists, for example, ethical behaviors, peer review, truthful reporting, public disclosure;~~
2. ~~The nature of scientific knowledge; and~~
3. ~~The history of science.~~

006.4~~5~~3 Physics

006.4~~5~~3A Grade Levels: 7-12

006.4~~5~~3B Endorsement Type: Subject

006.4~~5~~3C Persons with this endorsement may teach any physics course in grades 7 through 12.

006.4~~5~~3D Certification Endorsement Requirements: This endorsement shall require a minimum of 36 semester hours of laboratory based courses in the natural sciences (biology, chemistry, ~~e~~Earth and space science, and physics), of which 24 semester hours must be in physics, and a minimum of 12 semester hours of laboratory based courses among the remaining three natural sciences areas. A laboratory-based course provides activity-based, hands-on experience for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concept to the real lives of students.

006.4~~5~~3E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

THE FOLLOWING ARE RECOMMENDED GUIDELINES FOR INCLUSION AS PART OF THE INSTITUTION'S PLAN UNDER THIS ENDORSEMENT.

Through the courses identified in its plan, the institution must provide physics teacher candidates with opportunities to demonstrate the dispositions and competencies required by the following guidelines, based on National Science Teachers Association Standards (2011).

Secondary science teachers will be prepared with depth and breadth in the content of a given field. The major divisions of the natural sciences are biology, chemistry, Earth and space science, and physics. All teachers licensed in a given discipline will know, understand, and teach with the breadth of understanding reflected in the core competencies for that discipline.

Candidates will combine scientific processes and knowledge with scientific reasoning and critical thinking to ask questions about phenomena and propose explanations

based on gathered evidence. Specialists in a discipline will also have achieved the advanced competencies for that discipline and supporting competencies from related disciplines.

Standard 1. **Content Knowledge –** Effective teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and application in their fields of licensure. Candidates will:

Element 1. Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as recommended by the National Science Teachers Association.

Element 2. Understand the central concepts of the supporting disciplines.

Element 3. Show an understanding of state and national curriculum standards and their impact on the content knowledge necessary for teaching P-12 students.

Element 4. Core Competencies. All teachers of physics will lead students to understand:

A. Energy, work, and power;

B. Motion, major forces, and momentum;

C. Newtonian physics including engineering applications;

D. Conservation of mass, momentum, energy, and charge;

E. Physical properties of matter;

F. Kinetic-molecular motion and atomic models;

G. Radioactivity, nuclear reactors, fission, and fusion;

H. Wave theory, sound, light, the electromagnetic spectrum and optics;

I. Electricity and magnetism;

J. Fundamental processes of investigating in physics; and

K. Applications of physics in environmental quality and to personal and community health.

Element 5. Advanced Competencies. In addition to the core competencies, teachers of physics as a primary field will be prepared to effectively lead students to understand:

A. Thermodynamics and energy-matter relationships;

B. Nuclear physics including matter-energy duality and reactivity;

C. Angular rotation and momentum, centripetal forces, and vector analysis;

D. Quantum mechanics, space-time relationships, and special relativity;

E. Models of nuclear and subatomic structures and behavior;

F. Light behavior, including wave-particle duality and models;

G. Electrical phenomena including electric fields, vector analysis, energy, potential, capitance, and inductance;

H. Issues related to physics such as disposal of nuclear waste, light pollution, shielding communication systems and weapons development;

I. Historical development and cosmological perspectives in physics including contributions of significant figures and underrepresented groups, and evolution of theories in physics;

J. How to design, conduct, and report research in physics; and

K. Applications of physics and engineering in society, business, industry, and health fields.

Element 6. Supporting Competencies. All teachers of physics will be prepared to effectively apply concepts from other sciences and mathematics to the teaching of physics including concepts of:

A. Biology, including organization of life, bioenergetics, biomechanics, and cycles of matter;

B. Chemistry, including organization of matter and energy, electrochemistry, thermodynamics, and bonding;

C. Earth sciences and space sciences related to structure of the universe, energy, and interactions of matter; and

D. Mathematical and statistical concepts and skills including statistics and the use of differential equations and calculus.

Element 7. All secondary teachers will also be prepared to lead students to understand the unifying concepts of science, including:

A. Multiple ways to organize perceptions of the world and how systems organize the studies and knowledge of science;

B. Nature of scientific evidence and the use of models for explanation;

C. Measurement as a way of knowing and organizing observations of constancy and change;

D. Evolution of natural systems and factors that result in evolution or equilibrium; and

E. Interrelationships of form, function, and behaviors in living and nonliving systems.

Standard 2. **Content Pedagogy –** Effective teachers of science understand how students learn and develop scientific knowledge. Candidates use scientific inquiry to develop this knowledge. Candidates will:

Element 1. Plan multiple lessons using a variety of inquiry approaches that demonstrate their knowledge and understanding of how students learn science.

Element 2. Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences.

Element 3. Design instruction and assessment strategies that confront and address naïve concepts/preconceptions.

Standard 3. **Learning Environments –** Effective teachers of science are able to plan for engaging students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with state and national standards. The plans reflect the nature and social context of science, inquiry, and appropriate safety considerations. Candidates design and select learning activities, instructional settings, and resources--including technology, to achieve those goals; and they plan fair and equitable assessment strategies to evaluate if the learning goals are met. Candidates will:

Element 1. Use a variety of strategies that demonstrate the candidates' knowledge and understanding of how to select the appropriate teaching and learning activities – including laboratory or field settings - to help all students learn.

Element 2. Plans include active inquiry lessons where students collect and interpret data in order to develop concepts, understand scientific processes, relationships and natural patterns from empirical experiences.

Element 3. Plan fair and equitable assessment strategies to analyze student learning and to evaluate if the learning goals are met. Assessment strategies are designed to continuously evaluate preconceptions and ideas that students hold and the understandings that students have formulated.

Element 4. Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area.

Standard 4. **Safety –** Effective teachers of science can, in a P-12 classroom setting, demonstrate and maintain chemical safety, safety procedures, and the ethical treatment of living organisms needed in the P-12 science classroom appropriate to their area of licensure. Candidates will:

Element 1. Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction.

Element 2. Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines. Candidates ensure safe science activities appropriate for the abilities of all students.

Element 3. Design and demonstrate activities in a P-12 classroom that demonstrate ethical decision-making with respect to the treatment of all living organisms in and out of the classroom. They emphasize safe, humane, and ethical treatment of animals and comply with the legal restrictions on the collection, keeping, and use of living organisms.

Standard 5. **Impact on Student Learning –** Effective teachers of science provide evidence to show that P-12 students' understanding of major science concepts, principles, theories, and laws have changed as a result of

instruction by the candidate and that student knowledge is at a level of understanding beyond memorization. Candidates will:

Element 1. Collect, organize, analyze, and reflect on diagnostic, formative and summative evidence of a change in mental functioning demonstrating that scientific knowledge is gained and/or corrected.

Element 2. Provide data to show that P-12 students are able to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertion made in the name of science.

Element 3. Engage students in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.

Standard 6. Professional Knowledge and Skills – Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content and science pedagogy. They identify with and conduct themselves as part of the science education community. Candidates will:

Element 1. Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community.

Element 2. Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.

~~Through the courses identified in its plan, the institution should prepare prospective teachers to be able to:~~

~~A. Demonstrate knowledge and understanding of and be able to teach the concepts, skills and processes of science as defined in the Nebraska Content Standards for eighth and twelfth grades. Preparation for subject endorsements will not include the same level of depth of understanding as the Natural Science endorsement. Demonstrate the appropriate depth of understanding of the subject area endorsement.~~

~~B. Design and manage safe and supportive learning environments reflecting high expectations for the success of all students, including being able to:~~

~~1. Manage physical spaces within which science learning occurs;~~

~~2. Demonstrate proper treatment and ethical use of living organisms; and~~

~~3. Demonstrate safety in all areas related to science instruction;~~

~~C. Relate science to the community and to use human and institutional resources in the community to advance the education of their students in science, including being able to:~~

~~1. Utilize social and community support networks;~~

~~2. Relate science teaching and learning to the needs and values of the community; and~~

~~3. Involve people and institutions from the community in the teaching of science;~~

~~D. Apply the unifying concepts and processes that help students think about and integrate a range of basic ideas which build an understanding of the natural world, including:~~

~~1. Systems, order and organization;~~

~~2. Evidence, models and explanation;~~

~~3. Change, constancy and measurement;~~

~~4. Evolution and equilibrium; and~~

~~5. Form and function;~~

~~E. Apply the processes of scientific inquiry, including the ability to:~~

~~1. Identify questions and concepts that guide scientific investigations;~~

~~2. Design and conduct scientific investigations;~~

~~3. Use appropriate tools and techniques to gather, analyze and interpret data;~~

~~4. Develop descriptions, explanations, predictions and models using evidence;~~

~~5. Think critically and logically to make relationships between evidence and explanation;~~

~~6. Recognize and analyze alternative explanations and models;~~

~~7. Communicate and defend a scientific argument; and~~

~~8. Understand the unique characteristics of scientific inquiry;~~

~~F. Apply physical science facts, concepts, principles, theories and models, including:~~

~~1. Structure and properties of the atom;~~

~~2. Structure and properties of matter;~~

~~3. Chemical reactions;~~

~~4. Motions and forces;~~

~~5. Conservation of energy and increase in disorder; and~~

~~6. Interactions of energy and matter;~~

~~G. Apply life science facts, concepts, principles, theories and models, including:~~

1. ~~The cell;~~
2. ~~Molecular basis of heredity;~~
3. ~~Biological evolution;~~
4. ~~Interdependence of organisms;~~
5. ~~Matter, energy and organization in a human and other living systems; and~~
6. ~~Behavior of organisms;~~

H. ~~Apply earth and space science facts, concepts, principles, theories and models, including:~~

1. ~~Structure of the earth system;~~
2. ~~Earth's history;~~
3. ~~Earth in the solar system;~~
4. ~~Energy in the earth system;~~
5. ~~Geochemical cycles;~~
6. ~~Origin and evolution of the earth system; and~~
7. ~~Origin and evolution of the universe;~~

I. ~~Establish connections between the natural and designed world, linking science and technology, including being able to:~~

1. ~~Plan, create or modify, and evaluate a technological solution to a scientific problem;~~
2. ~~Describe the relationship between science and technology, including the cyclical relationship for advancement; and~~
3. ~~Demonstrate an understanding of the interdisciplinary nature of science as it approaches human problems, e.g., engineering, geophysics and biochemistry;~~

J. ~~Apply science concepts, principles, and processes to personal and social decision making, including:~~

1. ~~Personal and community health;~~
2. ~~Population growth;~~
3. ~~Natural resources;~~
4. ~~Environmental quality;~~
5. ~~Natural and human-induced hazards; and~~
6. ~~Science and technology in local, national, and global challenges, and~~

K. ~~Demonstrate an understanding of the history and nature of science, including:~~

1. ~~An understanding of science as a human endeavor, including the ability to:~~

a. ~~Describe significant scientists, including individuals from both genders, and of different races and ethnic groups;~~

b. ~~Describe the societal, cultural, and personal beliefs that influence scientists; and~~

c. ~~Demonstrate the nature and practice of scientists, for example, ethical behaviors, peer review, truthful reporting, public disclosure;~~

~~2. The nature of scientific knowledge; and~~

~~3. The history of science.~~

006.~~42~~54 ~~Natural~~ Science~~.~~

006.~~42~~54A Grade Levels: 7-12

006.~~42~~54B Endorsement Type: Field

006.~~42~~54C Persons with this endorsement may teach any ~~natural~~ science course in grades 7 through 12.

006.~~42~~54D Certification Endorsement Requirements: This endorsement shall require a minimum of 48 semester hours of laboratory-based courses with a minimum of two laboratory-based courses in each of the four disciplines in the ~~natural~~ sciences (biology, chemistry, ~~e~~Earth and space,~~science,~~ and physics). ~~of which 24 semester hours must be in one of the four areas and semester hours of laboratory-based courses distributed evenly among the other three areas.~~ A laboratory-based course provides activity-based, hands-on experiences for all students. Laboratory activities shall be designed to allow students to develop scientific skills and processes, discover and construct science concepts, and allow for the application of the concepts to the real lives of students.

006.~~42~~54E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

THE FOLLOWING ARE RECOMMENDED GUIDELINES FOR INCLUSION AS PART OF THE INSTITUTION'S PLAN UNDER THIS ENDORSEMENT.

Through the courses identified in its plan, the institution must provide secondary science teacher candidates with opportunities to demonstrate the dispositions and competencies required by the following guidelines, based on National Science Teachers Association Standards (2011).

Standard 1. Content Knowledge – Effective teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and application in their fields of licensure. Candidates will:

Element 1. Understand the major concepts, principles, theories, laws, and interrelationships of their fields of licensure and supporting fields as

recommended by the National Science Teachers Association.

Element 2. Understand the central concepts of the supporting disciplines.

Element 3. Show an understanding of state and national curriculum standards and their impact on the content knowledge necessary for teaching P-12 students.

Element 4. All teachers of **biology** should be prepared to lead students to understand the unifying concepts required of all teachers of science, and should also be prepared to lead students to understand the following:

A. Life processes in living systems including organization of matter and energy;
B. Similarities and differences among animals, plants, fungi, microorganisms, and viruses;
C. Ecological systems including the interrelationships and dependencies of organisms with each other and their environments;
D. Population dynamics and the impact of population on its environment;
E. General concepts of genetics and heredity;
F. Organizations and functions of cells and multi-cellular systems;
G. Behavior of organisms and their relationships to social systems;
H. Regulation of biological systems including homeostatic mechanisms;
I. Fundamental processes of modeling and investigating in the biological sciences;
J. Applications of biology in environmental quality and in personal and community health;
K. Bioenergetics including biochemical pathways;
L. Molecular genetics and heredity and mechanisms of genetic modification; and
M. Molecular basis for evolutionary theory and classification.

Element 5. All teachers of **chemistry** will be prepared to lead students to understand the unifying concepts required of all teachers of science, and will also be prepared to lead students to understand the following:

A. Fundamental structures of atoms and molecules;
B. Basic principles of ionic, covalent, and metallic bonding;

C. Periodicity of physical and chemical properties of elements;

D. Laws of conservation of matter and energy;

E. Fundamentals of chemical kinetics, equilibrium, and thermodynamics;

F. Kinetic molecular theory and gas laws;

G. Mole concept, stoichiometry, and laws of composition;

H. Solutions, colloids, and colligative properties;

I. Acids/base chemistry;

J. Fundamental oxidation-reduction chemistry, fundamental organic chemistry and biochemistry;

K. Fundamental biochemistry;

L. Nature of Science and fundamental processes in chemistry;

M. Applications of chemistry in personal and community health and environmental quality;

N. Fundamentals of nuclear chemistry; and

O. Historical development and perspectives in chemistry.

Element 6. All teachers of the **Earth and space sciences** will be prepared to lead students to understand the unifying concepts required of all teachers of science, and will also be prepared to lead students to understand the following:

A. Characteristics of land, atmosphere, and ocean systems on Earth;

B. Properties, measurement, and classification of Earth materials;

C. Changes in the Earth including land formation and erosion;

D. Geochemical cycles including biotic and abiotic systems;

E. Energy flow and transformation in Earth systems;

F. Hydrological features of the Earth;

G. Patterns and changes in the atmosphere, weather, and climate;

H. Origin, evolution, and planetary behaviors of Earth;

I. Origin, evolution, and properties of the universe;

J. Fundamental processes of investigating in the Earth and space sciences;

K. Sources and limits of natural resources; and

L. Applications of Earth and space sciences to environmental quality and to personal and community health and welfare.

Element 7. All teachers of **physics** will be prepared to lead students to understand the unifying concepts required of all teachers of science, and will also be prepared to lead students to understand:

A. Energy, work, and power;

B. Motion, major forces, and momentum;

C. Newtonian principles and laws including engineering applications;

D. Conservation of mass, momentum, energy, and charge;

E. Physical properties of matter;

F. Kinetic-molecular motion and atomic models;

G. Radioactivity, nuclear reactors, fission, and fusion;

H. Wave theory, sound, light, the electromagnetic spectrum and optics;

I. Electricity and magnetism;

J. Fundamental processes of investigating in physics; and

K. Applications of physics in environmental quality and to personal and community health.

Element 8. All secondary teachers will also be prepared to lead students to understand the unifying concepts of science, including:

A. Multiple ways to organize perceptions of the world and how systems organize the studies and knowledge of science;

B. Nature of scientific evidence and the use of models for explanation;

C. Measurement as a way of knowing and organizing observations of constancy and change;

D. Evolution of natural systems and factors that result in evolution or equilibrium;

E. Interrelationships of form, function, and behaviors in living and nonliving systems; and, in addition,

F. How to design, conduct, and report research in science.

Standard 2: Content Pedagogy – Effective teachers of science understand how students learn and develop scientific knowledge. Candidates use scientific inquiry to develop this knowledge. Candidates will:

Element 1. Plan multiple lessons using a variety of inquiry approaches that demonstrate their knowledge and understanding of how students learn science;

Element 2. Include active inquiry lessons where students collect and interpret data in order to develop and communicate concepts and understand scientific processes, relationships and natural patterns from empirical experiences; and

Element 3. Design instruction and assessment strategies that confront and address naïve concepts/preconceptions.

Standard 3: **Learning Environments** – Effective teachers of science are able to plan for engaging students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with state and national standards. The plans reflect the nature and social context of science, inquiry, and appropriate safety considerations. Candidates design and select learning activities, instructional settings, and resources--including technology, to achieve those goals; and they plan fair and equitable assessment strategies to evaluate if the learning goals are met. Candidates will:

Element 1. Use a variety of strategies that demonstrate the candidates' knowledge and understanding of how to select the appropriate teaching and learning activities – including laboratory or field settings -- to help all students learn;

Element 2. Make plans which include active inquiry lessons where students collect and interpret data in order to develop concepts, understand scientific processes, relationships and natural patterns from empirical experiences;

Element 3. Plan fair and equitable assessment strategies to analyze student learning and to evaluate if the learning goals are met. Assessment strategies are designed to continuously evaluate preconceptions and ideas that students hold and the understandings that students have formulated; and

Element 4. Plan a learning environment and learning experiences for all students that demonstrate chemical safety, safety procedures, and the ethical treatment of living organisms within their licensure area.

Standard 4: **Safety** -- Effective teachers of science can, in a P-12 classroom setting, demonstrate and maintain chemical safety, safety procedures, and the

ethical treatment of living organisms needed in the P-12 science classroom appropriate to their area of licensure. Candidates will:

Element 1. Design activities in a P-12 classroom that demonstrate the safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used within their subject area science instruction;

Element 2. Design and demonstrate activities in a P-12 classroom that demonstrate an ability to implement emergency procedures and the maintenance of safety equipment, policies and procedures that comply with established state and/or national guidelines. Candidates ensure safe science activities appropriate for the abilities of all students; and

Element 3. Design and demonstrate activities in a P-12 classroom that demonstrate ethical decision-making with respect to the treatment of all living organisms in and out of the classroom. They emphasize safe, humane, and ethical treatment of animals and comply with the legal restrictions on the collection, keeping, and use of living organisms.

Standard 5: Impact on Student Learning -- Effective teachers of science provide evidence to show that P-12 students' understanding of major science concepts, principles, theories, and laws have changed as a result of instruction by the candidate and that student knowledge is at a level of understanding beyond memorization. Candidates will:

Element 1. Collect, organize, analyze, and reflect on diagnostic, formative and summative evidence of a change in mental functioning demonstrating that scientific knowledge is gained and/or corrected;

Element 2. Provide data to show that P-12 students are able to distinguish science from nonscience, understand the evolution and practice of science as a human endeavor, and critically analyze assertions made in the name of science; and

Element 3. Engage students in developmentally appropriate inquiries that require them to develop concepts and relationships from their observations, data, and inferences in a scientific manner.

Standard 6: Professional Knowledge and Skills -- Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content and science pedagogy. They identify with and conduct themselves as part of the science education

community. Candidates will:

Element 1. Engage in professional development opportunities in their content field such as talks, symposiums, research opportunities, or projects within their community; and

Element 2. Engage in professional development opportunities such as conferences, research opportunities, or projects within their community.

~~Through the courses identified in its plan, the institution should prepare prospective teachers to be able to:~~

~~A. Demonstrate knowledge and understanding of and be able to teach the concepts, skills and processes of science as defined in the Nebraska Content Standards for eighth and twelfth grades. Demonstrate the appropriate depth of understanding in the 24 hours of emphasis.~~

~~B. Design and manage safe and supportive learning environments reflecting high expectations for the success of all students, including being able to:~~

~~1. Manage physical spaces within which science learning occurs;~~

~~2. Demonstrate proper treatment and ethical use of living organisms; and~~

~~3. Demonstrate safety in all areas related to science instruction;~~

~~C. Relate science to the community and to use human and institutional resources in the community to advance the education of their students in science, including being able to:~~

~~1. Utilize social and community support networks;~~

~~2. Relate science teaching and learning to the needs and values of the community; and~~

~~3. Involve people and institutions from the community in the teaching of science;~~

~~D. Apply the unifying concepts and processes that help students think about and integrate a range of basic ideas which build an understanding of the natural world, including:~~

~~1. Systems, order and organization;~~

~~2. Evidence, models and explanation;~~

~~3. Change, constancy and measurement;~~

~~4. Evolution and equilibrium; and~~

~~5. Form and function;~~

~~E. Apply the processes of scientific inquiry, including the ability to:~~

~~1. Identify questions and concepts that guide scientific investigations;~~

2. ~~Design and conduct scientific investigations;~~
3. ~~Use appropriate tools and techniques to gather, analyze and interpret data;~~
4. ~~Develop descriptions, explanations, predictions and models using evidence;~~
5. ~~Think critically and logically to make relationships between evidence and explanation;~~
6. ~~Recognize and analyze alternative explanations and models;~~
7. ~~Communicate and defend a scientific argument; and~~
8. ~~Understand the unique characteristics of scientific inquiry;~~

~~F. Apply physical science facts, concepts, principles, theories and models, including:~~

1. ~~Structure and properties of the atom;~~
2. ~~Structure and properties of matter;~~
3. ~~Chemical reactions;~~
4. ~~Motions and forces;~~
5. ~~Conservation of energy and increase in disorder; and~~
6. ~~Interactions of energy and matter;~~

~~G. Apply life science facts, concepts, principles, theories and models, including:~~

1. ~~The cell;~~
2. ~~Molecular basis of heredity;~~
3. ~~Biological evolution;~~
4. ~~Interdependence of organisms;~~
5. ~~Matter, energy and organization in a human and other living systems; and~~
6. ~~Behavior of organisms;~~

~~H. Apply earth and space science facts, concepts, principles, theories and models, includi~~

1. ~~Structure of the earth system;~~
2. ~~Earth's history;~~
3. ~~Earth in the solar system;~~
4. ~~Energy in the earth system;~~
5. ~~Geochemical cycles;~~
6. ~~Origin and evolution of the earth system; and~~
7. ~~Origin and evolution of the universe;~~

~~I. Establish connections between the natural and designed world, linking science and technology, including being able to:~~

1. ~~Plan, create or modify, and evaluate a technological solution to a scientific problem; and~~
2. ~~Describe the relationship between science and technology, including the cyclical relationship for advancement;~~
3. ~~Demonstrate an understanding of the interdisciplinary nature of science as it approaches human problems, e.g., engineering, geophysics and biochemistry;~~

~~J. Apply science concepts, principles, and processes to personal and social decision making, including:~~

1. ~~Personal and community health;~~
2. ~~Population growth;~~
3. ~~Natural resources;~~
4. ~~Environmental quality;~~
5. ~~Natural and human-induced hazards; and~~
6. ~~Science and technology in local, national, and global challenges, and~~

~~K. Demonstrate an understanding of the history and nature of science, including:~~

1. ~~An understanding of science as a human endeavor, including the ability to:~~
   a. ~~Describe significant scientists, including individuals from both genders, and of different races and ethnic groups;~~
   b. ~~Describe the societal, cultural, and personal beliefs that influence scientists; and~~
   c. ~~Demonstrate the nature and practice of scientists, for example, ethical behaviors, peer review, truthful reporting, public disclosure;~~
2. ~~The nature of scientific knowledge; and~~
3. ~~The history of science.~~

006.39 Mathematics

006.39A Grade Levels: ~~7~~6-12

006.39B Endorsement Type: Field

006.39C Persons with this endorsement may teach mathematics in grades ~~7~~6 through 12.

006.39D Certification Endorsement Requirements: This endorsement shall require a minimum of ~~30~~36 semester hours of mathematics.

006.39E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

THE FOLLOWING ARE RECOMMENDED GUIDELINES FOR INCLUSION AS PART OF THE INSTITUTION'S PLAN UNDER THIS ENDORSEMENT.

Through the courses identified in its plan, the institution ~~should~~will prepare prospective mathematics teachers~~to demonstrate the following criteria~~ according to the 2012 standards of the National Council of Teachers of Mathematics (NCTM) to:

A. Demonstrate knowledge and understanding of and ~~be able~~ability to teach the concepts, skills, and processes of mathematics as defined in the Nebraska Content Standards ~~for eighth and twelfth grades~~as per NAC 92 Rule 10.

Standard 1. Content Knowledge. Effective teachers of secondary mathematics demonstrate and apply knowledge of major mathematics concepts, algorithms, procedures, connections, and applications within and among mathematical domains. They understand the influence of curriculum standards on the mathematical content knowledge needed for teaching secondary (6-12) students.

Preservice teacher candidates:

1.a) Demonstrate and apply knowledge of major mathematics concepts, algorithms, procedures, applications in varied contexts, and connections within and among mathematical domains (Number, Algebra, Geometry, Trigonometry, Statistics, Probability, Calculus, and Discrete Mathematics) as outlined in the NCTM NCATE Mathematics Content for Secondary (listed below); and

1.b) Demonstrate an understanding of curriculum standards for mathematics and their impact on the mathematical content knowledge necessary for teaching secondary students.

All secondary mathematics teachers are prepared with depth and breadth in the following mathematical domains: Number, Algebra, Geometry, Trigonometry, Statistics, Probability, Calculus, and Discrete Mathematics. All teachers certified in secondary mathematics will know, understand, and teach with the breadth of understanding reflecting the following competencies for each of these domains:

1. **Number and Quantity**. All secondary mathematics teachers are prepared to develop student proficiency with the following topics related to number and quantity:

   1.1 Structure, properties, relationships, and operations including standard and non-standard algorithms on various types of numbers and number systems, including integer, rational, irrational, real, and complex numbers;

   1.2 Fundamental ideas of number theory (divisors, factors and factorization, primes, composite numbers, greatest common factor, least common multiple, and modular arithmetic)

   1.3 Quantitative reasoning and relationships that include ratio, rate, and proportion and the use of units in problem situations;

   1.4 Vector and matrix operations, modeling, and applications;

   1.5 Utilization of technological tools to explore number and quantity; and

   1.6 Historical development and perspectives of number, number systems, and quantity including contributions of significant figures and diverse cultures.

2. **Algebra**. All secondary mathematics teachers are prepared to develop student proficiency with the following topics related to algebra:

   2.1 Algebraic notation, symbols, expressions, equations, inequalities, and proportional relationships, and their use in describing, interpreting, and modeling relationships;

   2.2 Function classes including polynomial, exponential and logarithmic, absolute value, rational, periodic, and discrete and how the choices of parameters determine particular cases and model specific situations;

   2.3 Functional representations (tables, graphs, equations, descriptions, recursive definitions, and finite differences) and notations as a means to describe, interpret, and analyze relationships and to build new functions;

2.4 Patterns of change in linear, quadratic, polynomial, and exponential functions and in proportional and inversely proportional relationships and types of real-world relationships these functions can model;

2.5 Linear algebra including vectors, matrices, and transformations;

2.6 Abstract algebra including groups, rings, and fields and the relationship between these structures and formal structures for number systems and numerical and symbolic calculations;

2.7 Utilization of technological tools to explore algebraic ideas, individual functions, and classes of related functions and to solve problems; and

2.8 Historical development and perspectives of algebra including contributions of significant figures and diverse cultures.

3. **Geometry and Trigonometry**. All secondary mathematics teachers are prepared to develop student proficiency with the following topics related to geometry and trigonometry:

3.1 Core concepts and principles of Euclidean geometry in two and three dimensions and examples of non-Euclidean geometry;

3.2 Transformations including dilations, translations, rotations, reflections, glide reflections, and the expression of symmetry in terms of transformations;

3.3 Congruence, similarity and scaling, and their development and expression in terms of transformations;

3.4 Right triangles and trigonometry;

3.5 Application of periodic phenomena and trigonometric identities;

3.6 Identification, classification into categories, visualization, and representation of two- and three-dimensional objects (triangles, quadrilaterals, regular polygons, prisms, pyramids, cones, cylinders, and spheres);

3.7 Formula rationale and derivation (perimeter, area, and volume) of two- and three-dimensional objects (triangles, quadrilaterals, regular polygons, rectangular prisms, pyramids, cones, cylinders, and spheres), with attention to units, unit comparison, and the iteration, additivity, and invariance related to measurements;

3.8 Geometric constructions, axiomatic reasoning, and proof;

3.9 Analytic and coordinate geometry including algebraic proofs (e.g., the Pythagorean Theorem and its converse) and equations of lines and

planes, and expressing geometric properties of conic sections with equations;

3.10 Utilization of concrete models and dynamic technological tools to conduct geometric and trigonometric investigations that emphasize visualization, recognizing patterns, conjecturing, and proof and to model and solve problems; and

3.11 Historical development and perspectives of geometry and trigonometry including contributions of significant figures and diverse cultures.

4. **Statistics and Probability**. All secondary mathematics teachers are prepared to develop student proficiency with the following topics related to statistics and probability:

4.1 Statistical variability and its sources and the role of randomness in statistical inference;

4.2 Creation and implementation of surveys and investigations using sampling methods and statistical designs, statistical inference (estimation of population parameters and hypotheses testing), justification of conclusions, and generalization of results;

4.3 Construction and interpretation of graphical displays of univariate data distributions, summary measures and comparison of distributions of univariate data, and exploration of bivariate and categorical data;

4.4 Continuous and discrete probability, conditional probability, and combinatorial techniques;

4.5 Random (chance) phenomena, simulations, and probability distributions and their application as models of real phenomena and decision making;

4.6 Utilization of technological tools to explore statistical ideas, represent information, create simulations, and solve problems; and

4.7 Historical development and perspectives of statistics and probability including contributions of significant figures and diverse cultures.

5. **Calculus**. All secondary mathematics teachers are prepared to develop student proficiency with the following topics related to calculus:

5.1 Limit, continuity, and the techniques and applications of differentiation and integration;

5.2 Parametric, polar, and vector functions;

5.3 Sequences and series;

5.4 Applications of function, geometry, and trigonometry concepts to solve problems involving calculus;

5.5 Utilization of technological tools to explore and represent fundamental concepts of calculus and to solve problems taken from real-world contexts; and

5.6 Historical development and perspectives of calculus including contributions of significant figures and diverse cultures.

6. **Discrete Mathematics**. All secondary mathematics teachers are prepared to develop student proficiency with the following topics related to discrete mathematics:

6.1 Discrete structures including sets, relations, functions, graphs, trees, and networks;

6.2 Enumeration including permutations, combinations, iteration, recursion, and finite differences;

6.3 Propositional and predicate logic;

6.4 Applications of discrete structures such as modeling and solving linear programming problems and designing data structures;

6.5 Utilization of technological tools to solve problems involving discrete structures, the application of algorithms, and programming; and

6.6 Historical development and perspectives of discrete mathematics including contributions of significant figures and diverse cultures.

Standard 2. Mathematical Practices. Effective teachers of secondary mathematics know the importance of problem solving, reasoning and proof, modeling, attending to precision, identifying elements of structure, generalizing, engaging in mathematical communication, and making connections as essential mathematical practices. They understand that these practices intersect with mathematical content and that understanding of mathematical content relies on the ability to demonstrate these practices within and among mathematical domains and in their teaching.

Preservice teacher candidates:

2.a) Use problem solving to develop conceptual understanding, make sense of a wide variety of problems and persevere in solving them, apply and adapt a variety of strategies in solving problems confronted within the field of mathematics and other contests, and formulate and test generalizations.

2.b) Reason abstractly, reflectively, and quantitatively with attention to units, constructing viable arguments and proofs, and critiquing the reasoning of others; represent and model generalizations using mathematics; recognize structure and express regularity in patterns of mathematical

reasoning; and use multiple representations to model and describe mathematics; and utilize appropriate mathematic vocabulary and symbols to communicate mathematical ideas to others;

2.c) Formulate, represent, analyze, and interpret mathematical models derived from real-world contexts or mathematical problems.

2.d) Organize mathematical thinking and utilize appropriate mathematical vocabulary and symbols to precisely express ideas orally, pictorially, and in writing to diverse audiences;

2.e) Demonstrate the interconnectedness of mathematical ideas and how they build on one another and recognize and apply mathematical connections among mathematical ideas and across various content areas and real-world contexts; and

Standard 3. Content Pedagogy. Effective teachers of secondary mathematics apply knowledge of curriculum standards for mathematics and their relationship to student learning within and across mathematical domains. They incorporate research-based mathematical experiences and include multiple instructional strategies and mathematics-specific technological tools in their teaching to develop all students' mathematical understanding and proficiency. They provide students with opportunities to do mathematics – talking about it and connecting it to both theoretical and real-world contexts. They plan, select, and implement formative and summative assessments for monitoring student learning, measuring student mathematical understanding, and informing practice.

Preservice teacher candidates:

3.a) Apply knowledge of curriculum standards for secondary mathematics and their relationship to student learning within and across mathematical domains;

3.b) Analyze and consider research in planning for and leading students in rich mathematical learning experiences;

3.c) Plan lessons and units that incorporate a variety of strategies, differentiated instruction for diverse populations, and mathematics-specific and instructional technologies in building all students' conceptual understanding and procedural fluency;

3.d) Provide all students with opportunities to communicate about mathematics and make connections among mathematics, other content areas, everyday life, and the workplace;

3.e) Implement techniques related to student engagement and communication

including selecting high quality tasks, identifying student misconceptions, and employing a range of questioning strategies;

3.f) Plan, select, and implement formative and summative assessments reflecting mathematical knowledge, skills, understanding, and performance that are essential for all students; and

3.g) Monitor all students' progress, make instructional decisions, and measure all students' mathematical understanding and ability using formative and summative assessments.

Standard 4. **Mathematical Learning Environment.** Effective teachers of secondary mathematics exhibit in-depth knowledge of adolescent development and behavior and use this knowledge to plan and create sequential learning opportunities grounded in mathematics education research where students are actively engaged in the mathematics they are learning and building from prior knowledge and skills. They demonstrate a positive disposition toward mathematical practices and learning, including culturally relevant perspectives in teaching, and demonstrate equitable and ethical treatment of and have high expectations for all students. They use instructional tools such as manipulatives, digital tools, and virtual resources to enhance learning while recognizing the possible limitations of such tools.

Preservice teacher candidates:

4.a) Exhibit in-depth knowledge of adolescent development and behavior and demonstrate a positive disposition toward mathematical processes and learning;

4.b) Plan and create developmentally appropriate, sequential, and challenging learning opportunities grounded in mathematics education research in which all students are actively engaged in building new knowledge from prior knowledge and experiences;

4.c) Incorporate knowledge of individual differences and the cultural diversity that exists within classrooms and include culturally relevant perspectives as a means to motivate and engage students;

4.d) Demonstrate equitable and ethical treatment of and high expectations for all students;

4.e) Apply mathematical content and pedagogical knowledge to select and use instructional tools such as manipulatives and physical models, drawings, virtual environments, spreadsheets, presentation tools, and technology; and make sound decisions about when such tools enhance teaching and learning, recognizing both the insights to be gained and possible limitations.

Standard 5. Impact on Student Learning. Effective teachers of secondary mathematics provide evidence demonstrating that as a result of their instruction, which supports the continual development of a productive disposition toward mathematics, secondary students' conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and application of major mathematics concepts in varied contexts have increased. These teachers show that new student mathematical knowledge has been created as a consequence of their ability to engage students in mathematical experiences that are developmentally appropriate, require active engagement, and include mathematics-specific technology in building new knowledge.

Preservice teacher candidates:

5.a) Engage students in developmentally appropriate mathematical activities and investigations that require active engagement and include technology in building new knowledge; and

5.b) Analyze, reflect, and provide data that students have built new knowledge by their engagement in developmentally appropriate mathematical activities and investigations that include technology.

Standard 6. Professional Knowledge and Skills. Effective teachers of secondary mathematics are lifelong learners and recognize that learning is often collaborative. They participate in professional development experiences specific to mathematics and mathematics education, draw upon mathematics education research to inform practice, continuously reflect on their practice, and utilize resources from professional mathematics organizations.

Preservice teacher candidates:

6.a) Take an active role in their professional growth by participating in professional development experiences that directly relate to the learning and teaching of mathematics;

6.b) Engage in continuous and collaborative learning that draws upon research in mathematics education to inform practice; enhance all students' knowledge of mathematics; involve colleagues, other school professionals, families, and various stakeholders; and advance their development as a reflective practitioner; and

6.c) Utilize resources from professional mathematics education organizations such as print, digital, and virtual resources/collections.

Standard 7. Secondary Mathematics Field Experiences and Clinical Practice. Effective teachers of secondary mathematics engage in a planned sequence of field experiences and clinical practice under the supervision of experienced and highly

qualified mathematics teachers. They develop a broad experiential base of knowledge, skills, effective approaches to mathematics teaching and learning, and professional behaviors across both middle and high school settings that involve a diverse range and varied groupings of students. Candidates experience a full-time student teaching experience in secondary mathematics directed by university or college faculty with secondary mathematics teaching experience or equivalent knowledge base.

Preservice teacher candidates:

7.a) Engage in a sequence of planned field experiences and clinical practice prior to full-time student teaching experience that include observing and participating in both middle and high school mathematics classrooms under the supervision of experienced and highly qualified mathematics teachers and in varied settings that reflect cultural, ethnic, gender, and learning differences.

7.b) Experience full-time student teaching in secondary mathematics that is supervised by a highly qualified mathematics teacher and a university or college supervisor with secondary mathematics teaching experience or equivalent knowledge base.

7.c) Develop knowledge, skills, and professional behavior across both middle and high school settings; examine the nature of mathematics, how mathematics should be taught, and how students learn mathematics; observe and analyze a range of approaches to mathematics teaching and learning, focusing on tasks, discourse, environment, and assessment; and work with a diverse range of students individually, in small groups, and in large class settings.

~~B. Demonstrate an understanding of and be able to apply the processes of mathematics, including being able to:~~

~~1. Use problem-solving approaches to investigate and understand mathematical content;~~

~~2. Formulate and solve problems from both mathematics and everyday situations;~~

~~3. Communicate mathematical ideas orally and in writing using everyday language, mathematical language, symbols, and graphs;~~

~~4. Make mathematical conjectures, evaluate arguments and validate mathematical thinking;~~

~~5. Examine relationships within mathematics;~~

~~6. Connect mathematics to other disciplines and real-world situations;~~

~~7. Use technology in exploration, computation, graphing, and problem solving; and~~

~~8. Use instructional strategies based on current research as well as national, state, and local standards relating to mathematics instruction.~~

~~Demonstrate an understanding of and be able to apply the concepts and principles of mathematics, including being able to:~~

7. ~~Apply concepts of number, number theory, and number systems;~~
8. ~~Apply numerical computation and estimation techniques and extend them to algebraic expressions;~~
9. ~~Use geometric concepts and relationships to describe and model mathematical ideas and real-world constructs;~~
10. ~~Use both descriptive and inferential statistics to analyze data, make predictions, and make decisions;~~
11. ~~Demonstrate an understanding of the concepts of theoretical and simulated probability and apply them to real-world situations;~~
12. ~~Use algebra to describe patterns, relations, and functions and to model and solve problems;~~
13. ~~Recognize the roles of axiomatic systems and proofs in different branches of mathematics, such as algebra and geometry;~~
14. ~~Demonstrate an understanding of the concepts of limit, continuity, differentiation, and integration, and the techniques and applications of calculus;~~
15. ~~Demonstrate an understanding of the concepts and applications of discrete mathematics such as graph theory, matrices, recurrence relations, linear programming, difference equations, and combinatorics;~~
16. ~~Use mathematical modeling to solve problems from other fields such as natural sciences, social sciences, business, and engineering;~~
17. ~~Demonstrate an understanding of and be able to apply the major concepts of geometry;~~
18. ~~Demonstrate an understanding of and be able to apply the major concepts of linear algebra;~~
19. ~~Demonstrate an understanding of and be able to apply the major concepts of abstract algebra; and~~
20. ~~Demonstrate an understanding of the historical development in mathematics that includes the contributions of under-represented groups and diverse cultures.~~

~~**B.** The program for prospective teachers may include the following coursework: Pre-calculus, Calculus, Logic/Foundations, Linear Algebra, College Geometry, Probability and Statistics, Discrete/Finite Mathematics, History of Mathematics, Abstract Algebra, and Computer Programming and Applications.~~

006.6~~7~~8 Speech-Language Pathologist

006.6~~7~~8A Grade Levels: Birth to age 21~~through grade 12~~.

006.6~~7~~8B Endorsement Type: Field ~~Subject~~.

006.6~~7~~8C Persons with this teaching endorsement may ~~serve as a~~ provide speech language pathologyist services to and consultative services ~~and resource person for programs involving~~ for individuals from birth ~~through grade 12~~ to age 21 or completion of their Individualized Education Program.

006.6~~7~~8D Certification Endorsement Requirements: This endorsement requires a minimum of a ~~M~~master's degree in ~~S~~speech-~~L~~language ~~P~~pathology which includes at least 36 graduate semester hours in speech-language pathology and course work in related areas. Applicants must complete a minimum of 400~~250~~ clock hours of clinical experiences and an internship, supervised by the standard institution, in ~~a~~ school ~~or~~ and clinic settings.

006.6~~7~~8E Endorsement Program Requirements: Nebraska teacher education institutions offering this endorsement program must have on file, within the institution, a plan which identifies the courses and the course completion requirements which the institution utilizes to grant credit toward completion of this endorsement.

THE FOLLOWING ARE RECOMMENDED GUIDELINES FOR INCLUSION AS PART OF THE INSTITUTION'S PLAN UNDER THIS ENDORSEMENT.

~~Through the courses identified in its plan, the institution should prepare prospective speech-language pathologists to:~~

~~A. Conduct assessments and provide intervention for individuals with disorders of speech (e.g., phonology, fluency, voice) and language;~~
~~B. Conduct assessments, and provide intervention for individuals with cognitive-communication disorders;~~
~~C. Conduct assessment and intervention for individuals with disorders of oral-pharyngeal function (dysphagia) and related disorders;~~
~~D. Conduct assessments, select, and develop augmentative, alternative and assistive communication systems and provide training for their use;~~

~~E. Conduct aural habilitative and rehabilitative services and related counseling services;~~
~~F. Enhance speech-language proficiency and communication effectiveness (accent reduction);~~
~~G. Conduct pure tone and impedance audiometric screening;~~
~~H. Initiate educationally relevant medical referrals and follow-up procedures;~~
~~I. Assist with adaptations and accommodation of the learning environment including classroom acoustics;~~
~~J. Demonstrate an understanding of child development;~~
~~K. Provide written and verbal interpretation of speech-language assessment results and implications to appropriate individuals, such as parents, teachers, physicians and other professionals;~~
~~L. Participate in the development of the Individual Education Program (IEP) and Individual Family Service Plan (IFSP), including being able to:~~
~~1. Interpret speech-language assessment results and their implications on communication, academic, cognitive and psychosocial development;~~
~~2. Explain service delivery options, including appropriate intensity of services; and~~
~~3. Assist parents in understanding their Parental Rights in accessing educational services for their children (under IDEA and state statute);~~
~~M. Consult and collaborate with classroom teachers and other professionals regarding the relationship of speech-language impairments to the development of communication, academic, cognitive and psychosocial skills, including the ability to recommend appropriate accommodations and modifications to the curriculum;~~
~~N. Provide speech-language interventions as determined by the IEP or IFSP team. The areas of interventions may include:~~
~~1. Speech skills including phonological skills, voice, and fluency;~~
~~2. Language skills (including receptive and expressive language, and auditory processing);~~
~~3. Selection and use of appropriate instructional materials;~~
~~4. Coordination of services with family, school and community;~~
~~O. Support and advise the IEP and/or IFSP team in the determination of the need for and selection of appropriate assistive technology;~~
~~P. Provide counsel for the family and individual who is speech-language impaired, including emotional support, information about the communication disorder and its implications, and interaction strategies to maximize communication and psychosocial development;~~
~~Q. Select and maintain diagnostic instruments;~~
~~R. Maintain records, including screening, referral, follow-up, assessment, IFSP/IEP planning and services;~~
~~S. Design and implement staff development and in-service training for school personnel;~~
~~T. Provide training and supervision, relative to communication interventions for parents, licensed or certified staff, and para-professionals;~~
~~U. Demonstrate an understanding of school systems, multidisciplinary teams, and community and professional resources; and~~
~~V. Employ effective interpersonal and communication skills.~~

Through the courses identified in its plan, the institution shall prepare prospective speech-language pathologists based on the Council for Clinical Certification (CFCC) of the American Speech-Language Hearing Association (ASHA) Standards (2008) to:

A. Demonstrate knowledge of the principles of biological sciences, physical sciences, mathematics, and social/behavioral sciences;

B. Demonstrate knowledge of basic human communication and swallowing processes, including their biological, neurological, acoustic, psychological, developmental, and linguistic and cultural bases;

C. Demonstrate knowledge of the nature of speech, language, hearing, and communication disorders and differences and swallowing disorders, including their etiologies, characteristics, anatomical/physiological, acoustic, psychological, developmental, and linguistic and cultural correlates.
   1. Specific knowledge must be demonstrated in the following areas:
      a. speech sound disorders (articulation and phonology);
      b. fluency;
      c. voice and resonance, including respiration and phonation;
      d. receptive and expressive language (prelinguistic, paralinguistic, phonology, morphology, syntax, semantics, and pragmatics) in speaking, listening, reading, writing, and manual modalities;
      e. hearing, including the impact on speech and language;
      f. swallowing (oral, pharyngeal, esophageal, and related functions, including oral function for feeding; orofacial myofunction);
      g. cognitive aspects of communication (attention, memory, sequencing, problem-solving, executive functioning);
      h. social aspects of communication (including challenging behavior, ineffective social skills, lack of communication opportunities); and
      i. communication modalities (including oral, manual, augmentative, and alternative communication techniques and assistive technologies).

D. Demonstrate knowledge of the principles and methods of prevention, assessment, and intervention for students with communication and swallowing disorders, including consideration of anatomical/physiological, psychological, developmental, and linguistic and cultural correlates of the disorders;

E. Complete a program of study that includes supervised school and clinical experiences sufficient in breadth and depth to achieve the following skills outcomes (in addition to clinical experiences, skills may be demonstrated through successful performance on academic course work and examinations, independent projects, or other appropriate alternative methods):
   1. Evaluation

a. Conduct screening and prevention procedures (including prevention activities);
b. Collect case history information and integrate information from students, families, caregivers, teachers, relevant others, and other professionals;
c. Select and administer appropriate evaluation procedures, such as behavioral observations, non-standardized and standardized tests, and instrumental procedures;
d. Adapt evaluation procedures to meet student needs;
e. Interpret, integrate, and synthesize all information to assist in the eligibility and make appropriate recommendations for intervention;
f. Complete administrative and reporting functions necessary to support evaluation; and
g. Refer students for appropriate services~~.~~

2. Intervention
   a. Develop setting-appropriate intervention plans with measurable and achievable goals that meet student needs by collaborating with students and relevant others in the planning process;
   b. Implement intervention plans by involving students and relevant others in the intervention process;
   c. Select or develop and use appropriate materials and instruments for prevention and intervention;
   d. Measure and evaluate students' performance and progress;
   e. Modify intervention plans, strategies, materials, or instrumentation as appropriate to meet the needs of students;
   f. Complete administrative and reporting functions necessary to support intervention; and
   g. Identify and refer students for services as appropriate.

3. Interaction and Personal Qualities
   a. Communicate effectively recognizing the needs, values, preferred mode of communication, and cultural/linguistic background of the student, family, caregivers, and relevant others;
   b. Collaborate with other professionals in case management;
   c. Provide counseling regarding communication and swallowing disorders to students, families, caregivers, and relevant others; and
   d. Adhere to the ASHA Code of Ethics and behave professionally.

F. Demonstrate knowledge of processes used in research and the integration of research principles into evidence-based practice;

G. Demonstrate knowledge of contemporary professional issues and advocacy

including the provision of services in educational and clinical settings;

H. Demonstrate skill in oral, written, and other forms of communication sufficient for entry into professional practice;

I. Demonstrate knowledge of and experience with individuals from culturally/ linguistically diverse backgrounds; and

J. Complete a minimum of 400 clock hours of supervised school and clinical experience in the practice of speech-language pathology, including 25 hours in clinical observation and 375 hours in direct client contact, of which 325 clock hours occur during graduate study.

Redline Version
Proposed Speech-Language Pathologist
Draft #3 – 4.26.12

For Legal Review 11-6-12

Speech-Language Pathologist
Endorsement Guidelines
To Accompany Rule 24
(Adopted by the State Board of Education on ~~11/9/01~~)

AD HOC MEMBERS (Based on Section 17.03 of the NCTE Organizational Policies)

SPEECH-LANGUAGE PATHOLOGIST **DATE: February 28, 2012**

NEBRASKA COUNCIL OF SCHOOL ADMINISTRATORS—455 South 11th Street, Lincoln, NE 68508

MEMBERSHIP CRITERIA	NOMINEES
17.03A Three practitioners currently endorsed and employed in approved or accredited public or private schools in the endorsement area under consideration	1. Cindy Brunken, LPS Hawthorne Elem/LPS SLP Supervisor (D1) cbrunk@lps.org 2. Nancy Poppe, ESU 9 (D6) npoppe@esu9.org 3. Kami Jessop, Papillion-LaVista SLP Supervisor (D2) kjessop@paplv.org
17.03B At least two faculty members from a college or department of education who are teaching professional education courses at an approved professional training institution	1. Deanne Splattstoesser , UN-L (D1) dsplattstoesser2@unl.edu 2. Linda Crowe, UNK (D6) crowelk@unk.edu
17.03C Two specialists in the area which might include academic college professors, learned society officers, or persons drawn from related professions	1. Mary Friehe, UNO (D8) mfriehe@unomaha.edu 2. Carol McClain, NDE (D1) carol.mcclain@nebraska.gov
17.03D Two teachers currently employed and endorsed in approved or accredited public or private schools at the grade levels and/or subject matter under consideration	*(This category could be covered by appointees to 17.03A)*
17.03E Two school administrators currently employed in approved or accredited public or private schools at the grade levels under consideration. At least one of the administrators must represent District Classes 2 or 3	1. Lincoln or Omaha administrators Paula Hopkins, OPS (D4) paula.hopkins@ops.org 2. Classes 2 or 3 Kim Cooper, North Platte SPED Director (D7) kimcoop@nppsd.org Tim Heckenlively, Falls City Supt. (D5) theckenlively@fallscityps.org
17.03F One person representing the general public, e.g. PTA member or a school board member	Kevin Eairleywine, Fremont (D3) Kevin.Eairleywine@fpsmail.org
17.03G One member of the Undergraduate or Graduate Committee, whichever is applicable.	Donna Moss, Hastings Public, Director of Student Services (D5) dmoss@esu9.org
17.03H One representative of NDE	Annie Bird abird10@cox.net
17.03I Additional representatives if it is a field endorsement containing multiple subject endorsements	*N/A for this Ad Hoc*

17.03J Additional approved or accredited public or private school practitioners or higher education faculty members to equalize the representation between these two groups	*N/A for this Ad Hoc*
17.03K The NDE designee, who will be a non-voting member and serve as a consultant for the committee	Sharon Katt, NDE Marge Harouff, NDE Kevin Peters, NDE Pat Madsen, NDE Marlene Beiermann, NDE

Ad Hoc Committee discussion included the following points related to the SLP endorsement:

- Nebraska has three institutions that prepare Speech-Language Pathologists—UNK, UN-L, and UNO.
- Approximately 300 candidates apply to masters programs each year in the state with approximately 60-70 total being accepted into the three programs. A small percentage of applicants not accepted reapply. (NE Universities have recently been charged to increase enrollments, but must be full-time students.)
- The Council for Clinical Certification (CFCC) will complete their standards revision this year. Nebraska programs want the clinical experiences clock hours to be designated in the Rule.

Grade Level: Although grade level appears as B-12, the intent is that this endorsement is inclusive of services through age 21. (Nebraska is a birth mandate state, and public school students with verified disabilities are able to receive services through the year that they turn 21 years of age, or until they no longer qualify for services.)

Endorsement Type: Changed to "Field" with the understanding that the entire Rule will be reviewed in the future for consistency (or elimination) of subject/field designation. The Ad Hoc Committee members felt the depth and breadth of communication disorders is equivalent to the variety of subjects within a traditional content field.

In the current endorsement, 'resource person' is used and creates confusion, since many use the term 'resource teacher' for individuals with a Special Education: Mild/Moderate endorsement. Language was revised to communicate that SLPs also provide consultation and support, in addition to direct services. There is a concern that maintaining the 'resource' language terminology as well as including it in the mild-moderate endorsement permits individuals with little or no training in communication disorders to work with students with language and learning disabilities. While the schools might see this as an administrative and resource availability issue, it does not put highly qualified persons in the jobs.

06.67D—Standard practicum is now 400 clock hours in school and clinical settings (change from 250 clock hours in current rule.)

Suggestion that a requirement to take/pass a content test (Praxis II) be added to the Rule. ASHA requires that institutions post pass rates and maintain a minimum 80% pass rate for continuing program accreditation (However, ASHA requirements are that institutions cannot require passing the test for program completion). For purpose of state licensure from Nebraska HHS and to obtain national certification, SLPs must take and pass the test. Institution representatives suggested that language should be added to require a national exam (Praxis II) for program completion. NDE staff indicated that there is currently no precedence for adding national

examination requirements to program completion or certification. Although this requirement would be consistent with ASHA expectations for national program accreditation, the group consensus was that the requirements related to national exams would remain an institutional requirement. (Two NE programs require candidates to take the Praxis II test for program completion, one does not.)

The goal of the Ad Hoc Committee should be to identify requirements for NE IHE's as they prepare SLP's. These requirements should support the institution's desire to be in line with ASHA certification - however, ASHA requirements do not directly guide endorsement requirements.

Ad Hoc Committee members went through each guideline and made a few changes in wording (i.e. 'client' replaced with 'student', and a few others.)

Speech Language Technician—Special Services Endorsement

This endorsement was created pre-2000 in response to looking for alternatives to address the need for speech-language services in schools. At the time it was intended to be a short-term/interim solution, and an immediate way to provide services. Those involved in the pre-2000 discussion indicated that some of the intent of the SLT did not get reflected in the current Rule. Intent was that this endorsement would not be available for an extended period of time, but rather to allow individuals to be employed while waiting to get accepted into and complete a SLP program (possibly only three years.) However, it is difficult to complete a SLP masters program in three years, due to time needed to get accepted into a program and class availability. The difficulty increases for someone employed full-time, as needed classes are frequently not available online or during summer sessions.

Concern was expressed about eliminating the SLT endorsement since it allows individuals to be paid on a professional salary schedule as opposed to classified staff. The SLT is probably more desirable because it requires a basic foundational preparation - rather than using a paraprofessional with no training or expecting a SPED teacher with a different endorsement and minimal training for language resource assistance.

Supply of SLPs continues to be a concern. There are approximately 10-15 people who currently hold an SLT Special Services endorsement and do not have a SLP endorsement (as of 9/2011.) One possible solution is to develop language in Rule 21 which would allow individuals with expired certificates to renew their certificate with national certification and employment as an SLP in a non-school setting. Schools continue to have the option to hire non-teaching certified SLPs who hold Nebraska HHS licensure. These individuals will also qualify for SPED reimbursement.

Discussion was held regarding the NSLHA proposal discussed by NDE staff and Association representatives in 2011. The NSLHA proposal was brought to NDE to discuss alternatives to current NDE teacher certification renewal requirements that might assist with recruitment of SLPs to education. The result of the 2011 meetings was a suggestion that current national certification and successful employment experience be viewed as comparable/equivalent for certificate renewal. The NSLHA representatives indicated that this proposed strategy received support from their constituencies and the Ad Hoc committee also indicated support. This conversation will not impact Rule 24 endorsement revision; however, NDE will prepare language for the next Rule 21 revision.

Online programs are becoming more available which may impact current needs. (Note from Deanne S., 3.12.12: 10 of 289, or 3% of accredited university SLP programs across the country offer their entire program online according to ASHA CAA.) There is a need to get reliable information about shortage/supply (districts reluctant to report shortages/unfilled positions). It would also be good to know how many students need services, but are not getting them due to lack of qualified SLPs. Districts are hesitant to report anything, as they are concerned about how the information would be used.

Recommendation that SLT endorsement be revised to clearly communicate that this will only be available to individuals who:

---Have completed a communication disorders/speech-language pathology undergraduate program
---Are accepted into a SLP program during the 1st year of issuance of the 'provisional' certificate
---Are able to renew the 'provisional' certificate for an additional "X#" years IF a minimum of 6 hours specified in an institution-developed/approved Program Completion Plan are completed each year.
---Nonrenewable after X# of years - or if requirements are not met.

007.~~05~~04 Speech Language Technician~~.~~

007.~~05~~04A Grade Levels: ~~PK-12~~ Birth to age 21

007.~~05~~04B Endorsement Type: Special Services

007.~~05~~04C Persons with this endorsement may provide speech-language services for individuals ~~students~~ from ~~pre-kindergarten~~ birth to age 21.~~;through grade 12;~~ ~~they~~ The person must be supervised by a certified speech-language pathologist.~~, they~~ The person may not fulfill the requirement(s) of a speech-language pathologist ~~in 92 NAC 51 for membership~~ on a multi~~-~~disciplinary evaluation team ~~and/~~or an individualized family service plan (IFSP) ~~educational plan~~ team or individual education plan (IEP) team.

007.~~05~~04D Certification Endorsement Requirements: This endorsement ~~will~~ requires the applicant to have completed a baccalaureate degree in communication disorders/speech-language pathology.

007.~~05~~04E Limited Purpose: This endorsement may be placed only on the Nebraska Provisional Special Services Certificate with validity, terms and renewal options as described for that certificate in 92 NAC 21.

007.~~05~~04F No Nebraska Standard Institution of Higher Education will be granted approval to offer a program of study leading to this endorsement.

THERE ARE NO ADDITIONAL GUIDELINES RECOMMENDED FOR USE WITH THIS ENDORSEMENT.

DRAFT

Redline - For Legal Review 11.6.12

007.05 Coaching~~.~~

007.05A Grade Levels: ~~9~~7-12

007.05B Endorsement Type: Special Services

007.05C The endorsement shall be valid only in the area of coaching extracurricular activities and may appear only on a special services certificate.

007.05D The endorsement shall be valid only in the Nebraska school system requesting the issuance of such certificate and shall require:

007.05D1 Successful completion of the following content from a college with an approved teacher education program or from other organizations who provide instruction in the same content:

007.05D1a Prevention, care and management of injuries;

007.05D1b Risk management;

007.05D1c Growth, development and learning;

007.05D1d Training, conditioning and nutrition;

007.05D1e Psychology of coaching; and

007.05D1f Coaching theory and methods.

THERE ARE NO ADDITIONAL GUIDELINES RECOMMENDED FOR USE WITH THIS ENDORSEMENT