Virginia Board of Education Agenda Item

Agenda Item: J **Date:** May 23, 2013

Title	First Review of Recommendation of the Advisory Board on Teacher Education and Licensure (ABTEL) to Revise the *Regulations Governing the Review and Approval of Education Programs in Virginia* (8 VAC 20-542-10 et seq.) (Proposed Stage)		
Presenter	Mrs. Patty S. Pitts, Assistant Superintendent for Teacher Education and Licensure		
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Purpose of Presentation:
Action required by state or federal law or regulation.

Previous Review or Action:
Previous review and action. Specify date and action taken below:
Date: October 25, 2012
Action: Approval of a Notice of Intended Regulatory Action (NOIRA) to Revise the *Regulations Governing the Review and Approval of Education Programs in Virginia* (8VAC20-542-10 et seq.)

Action Requested:
Action will be requested at a future meeting. Specify anticipated date below:
Date: June 27, 2013

Alignment with Board of Education Goals: Please indicate (X) all that apply:

	Goal 1: Accountability for Student Learning
	Goal 2: Rigorous Standards to Promote College and Career Readiness
	Goal 3: Expanded Opportunities to Learn
	Goal 4: Nurturing Young Learners
X	Goal 5: Highly Qualified and Effective Educators
	Goal 6: Sound Policies for Student Success
	Goal 7: Safe and Secure Schools
	Other Priority or Initiative. Specify:

Background Information and Statutory Authority:
Goal 5: The *Regulations Governing the Review and Approval of Education Programs in Virginia* set forth the requirements for the accreditation and approval of programs preparing teachers, administrators, and other instructional personnel requiring licensure. These regulations will establish policies and standards for the preparation of instructional personnel, further ensuring educational quality for Virginia public school students.

The Board of Education has the statutory authority to prescribe requirements for the approval of education preparation programs. Section 22.1-298.2 of the *Code of Virginia*, states, in part, the following:

> …Education preparation programs shall meet the requirements for accreditation and program approval as prescribed by the Board of Education in its regulations….

The *Constitution of Virginia* and the *Code of Virginia* sections below provide authority for the Board of Education to promulgate the *Regulations Governing the Review and Approval of Education Programs in Virginia*:

Constitution of Virginia (Article VIII, Section 4): "The general supervision of the public school system shall be vested in a Board of Education…."

Code of Virginia, Section 22.1-16. Bylaws and regulations generally.

Code of Virginia, Section 22.1-305.2. Advisory Board on Teacher Education and Licensure.

On September 21, 2007, the *Regulations Governing the Review and Approval of Education Programs in Virginia*, promulgated by the Board of Education, became effective. One additional amendment became effective on January 19, 2011, that responded to a requirement of the 2010 Virginia General Assembly to include local government and civics instruction specific to Virginia in certain preparation programs.

On October 25, 2012, the Board of Education approved the Notice of Intended Regulatory Action (NOIRA), which is required for executive branch review and the Virginia Registrar of Regulations, pursuant to the Virginia Administrative Process Act (APA) and Executive Order 14 (2010). The NOIRA was filed with the Virginia Registrar, and the public comment period for the NOIRA concluded on January 30, 2013.

Summary of Important Issues:

The process of developing proposed revisions to the *Regulations Governing the Review and Approval of Education Programs in Virginia* for review by the Advisory Board on Teacher Education and Licensure has involved statewide stakeholders. On February 1, 2013, a Work Group was hosted by The University of Richmond to review the *Regulations Governing the Review and Approval of Education Programs in Virginia*, as well as the *Licensure Regulations for School Personnel*, and make proposed amendments. Approximately 70 individuals from colleges and universities participated in the meeting. A smaller Work Group of stakeholders was convened on March 21, 2013, to continue discussion on revisions to the regulations. Content experts at the Virginia Department of Education also worked with instructional personnel, educational associations, college and university personnel, and others to recommend revisions to the competencies set forth in the *Regulations Governing the Review and Approval of Education Programs in Virginia.*

The Advisory Board on Teacher Education and Licensure received the proposed revisions to the *Regulations Governing the Review and Approval of Education Programs in Virginia* on April 22, 2013. The Advisory Board unanimously recommended that the Board of Education accept the proposed

revisions to the regulations in the proposed stage of the Administrative Process Act process, authorizing Department of Education staff to make technical and editing revisions.

Attached is a chart highlighted proposed revisions to the *Regulations Governing the Review and Approval of Education Programs in Virginia.* Additional detail and technical revisions are set forth in the attached document, Proposed Revisions to the *Regulations Governing the Review and Approval of Education Programs in Virginia* (8VAC20-542-10 et seq.).

Impact on Fiscal and Human Resources:
There will be administrative impact as Department of Education staff will need to prepare the regulations for public comments, prepare and file all documentation related to the Administrative Process Act, and ensure that public comments are solicited and addressed. This impact will be absorbed within existing resources.

Timetable for Further Review/Action:
Final review of the proposed regulations (proposed stage) is planned for the June 27, 2013, Board meeting. Following approval by the Board, the regulations will undergo executive review by the Office of the Attorney General, the Department of Planning and Budget, the Secretary of Education, and the Governor. Upon approval by the Governor, the proposed regulations are published in the *Virginia Register*, and there is a 60-day public comment period. Once the 60-day comment period is complete, the regulations will be reviewed by the Advisory Board on Teacher Education and Licensure and subsequently presented to the Board of Education, with any changes as a result of public comment, for final review and approval.

Superintendent's Recommendation:
The Superintendent of Public Instruction recommends that the Board of Education accept for first review the recommendation of the Advisory Board on Teacher Education and Licensure (ABTEL) to revise the *Regulations Governing the Review and Approval of Education Programs in Virginia* (Proposed Stage).

PROPOSED REVISIONS *REGULATIONS GOVERNING THE REVIEW AND APPROVAL OF EDUCATION PROGRAMS IN VIRGINIA*	
ACCREDITATION OF PROFESSIONAL EDUCATION PROGRAMS	
Requires professional education program accreditation by CAEP	**8VAC-20-542-30.** **Options for Accreditation** Professional education programs in Virginia shall obtain national accreditation from the Council for the Accreditation of Educator Preparation (CAEP), including CAEP/ National Council for the Accreditation of Teacher Education (NCATE) and CAEP/ Teacher Education Accreditation Council (TEAC).
PROFESSIONAL STUDIES REQUIREMENTS	
Eliminates the professional studies coursework cap	**8VAC20-542-20.** ~~C. Professional studies coursework and methodology, excluding field experiences, are limited to 24 semester hours for any baccalaureate degree program (or equivalent thereof) in early/primary education (preK-3), elementary education (preK-6), and special education. All other baccalaureate degree programs (or equivalent thereof) shall not exceed 18 semester hours of professional coursework and methodology, excluding field experiences.~~
Establishes an expectation for approved teacher preparation programs at the undergraduate level.	Professional studies coursework and methodology, including field experiences, required in these regulations shall be designed for completion within a baccalaureate degree program.
Revises professional studies requirements	**8VAC20-542-90 and 8VAC20-540-140** Professional studies competencies must be completed in the following areas, and competencies for each are set forth in the regulations: ■ Human Growth and Learning ■ Curriculum and Instruction ■ Classroom and Behavior Management ■ Assessment of and for Learning ■ The Teaching Profession ■ Reading ■ Supervised Classroom Experience
STANDARDS FOR BIENNIAL APPROVAL OF EDUCATION ENDORSEMENT PROGRAMS	
Revises the biennial standard for candidate progress and performance on Board of Education licensure assessments	**8VAC20-542-40** Education endorsement programs in Virginia shall be approved by the Board of Education and demonstrate achievement biennially of the following accountability measures. The institution of higher education must report evidence of the standards for Board of Education review biennially. 1. Candidate progress and performance on prescribed Board of Education licensure assessments. Candidate passing rates, reported by percentages, shall not fall below 80 percent biennially for program completers and program non-completers. (Program completers are individuals who have successfully completed all

	coursework, required licensure assessments, and supervised student teaching or required internship. Program non-completers are those individuals who have been officially admitted into the education program and who have taken, regardless of whether the individual passed or failed, required licensure assessments, and who exit the program prior to completion.) Program non-completers shall have been officially released (in writing) from an education endorsement program by an authorized administrator of the program. 2. Candidate progress and performance on an assessment of basic skills as prescribed by the Board of Education for individuals seeking entry into an approved education endorsement program. Indicators of the achievement of this standard shall include the following: a. Results on Board of Education prescribed entry-level assessments; b. Documentation that candidates enrolled in the program who fail to achieve a minimum score established by the Board of Education have the opportunity to address any deficiencies; and c. Documentation of the number of candidates admitted into the program who did not meet the prescribed admission assessment and the opportunities provided to the candidates to address any deficiencies. 3. Structured and integrated field experiences to include early clinical experiences and a summative supervised student teaching experience. Indicators of the achievement of this standard shall include the following: a. Evidence that candidates receive quality <u>clinically-based</u> structured and integrated field experiences that prepare them to work in diverse educational environments; and
Stipulates 10 weeks of a summative clinical student teaching experience under the supervision of a cooperating teacher with demonstrated effectiveness in the classroom.	b. Evidence that supervised clinical experiences are continuous and systematic and comprised of early field experiences and a minimum of 10 weeks of full-time student teaching under the supervision of a cooperating teacher with demonstrated effectiveness in the classroom. The supervised student teaching experience shall include at least 150 clock hours spent in direct teaching at the level of endorsement 4. Evidence of opportunities for candidates to participate in diverse school settings that provide experiences with populations that include racial, economic, linguistic, and ethnic diversity throughout the program experiences.

	The indicator of the achievement of this standard shall include evidence that the professional education program provides opportunities for candidates to have program experiences in diverse school settings that provide experiences with populations that include racial, economic, linguistic, and ethnic diversity within each biennial period. 5. Evidence of contributions to preK-12 student achievement by candidates completing the program. Indicators of the achievement of this standard shall include the following: a. Evidence to show that candidates know about, create, and use appropriate and effective data-driven assessments in teaching that shall provide dependable information about student achievement; b. Evidence to document faculty have made provisions for evaluating effects that candidates have on preK-12 student learning in the context of teaching as they design unit assessment systems and assessments for each program; and c. Evidence that the education program assesses candidates' mastery of exit criteria and performance proficiencies, including the ability to affect student learning, through the use of multiple sources of data such as a culminating experience, portfolios, interviews, videotaped and observed performance in schools, standardized tests, and course grades. 6. Evidence of employer job satisfaction with candidates completing the program. Indicators of the achievement of this standard shall include: a. Documentation that the professional education program has two years of evidence regarding candidate performance based on employer surveys. b. Documented evidence of teacher effectiveness, including student academic progress. 7. Partnerships and collaborations based on preK-12 school needs. Indicators of the achievement of this standard shall include the following: a. Documented evidence that the education endorsement program has established partnerships reflecting collaboratively designed program descriptions based on identified needs of the preK-12 community.
Includes the following indicator: Employer job satisfaction documentation must address teachers' performance, including student academic progress.	

	b. Documented evidence that the administration and supervision program collaborates with partnering schools to identify and select candidates for school leadership programs who meet local needs, demonstrate both potential for and interest in school leadership, and meet the qualifications for admission to advanced programs.
Requires an Annual Report Card	Institutions of higher education will be required to submit data on education programs, and the Virginia Department of Education will produce an annual report card published on the Department's Web site. The information required on the Report Card will be approved by the Board of Education, including the institution's accreditation status, the education endorsement program status, the number of candidates admitted in endorsement programs; the number of program completers, biennial data results, the number of candidates admitted into the program who did not meet the prescribed admission assessment and the opportunities provided to the candidates to address any deficiencies, and other data as requested by the Board.
APPLICATION OF THE STANDARDS	
Revises criteria for ratings for education endorsement programs	**8VAC20-542-50.** A. As a prerequisite to education endorsement program approval, professional education programs in Virginia shall have national accreditation. Failure to do so will result in the education endorsement program being designated as "approval denied." B. The education endorsement program's candidate passing rates, reported by percentages, shall not fall below 80 percent biennially for program completers and program non-completers. (Program completers are individuals who have successfully completed all coursework, required licensure assessments, and supervised student teaching or required internship. Program non-completers are those individuals who have been officially admitted into the education program and who have taken, regardless of whether the individual passed or failed, required licensure assessments, and who exit the program prior to completion.) Program non-completers shall have been officially released (in writing) from an education endorsement program by an authorized administrator of the program. C. The professional education program's authorized administrator is responsible to certify documented evidence that the following standards as set forth in 8VAC20-542-40 have been met by the education endorsement program: 1. The professional education program shall demonstrate candidate progress and performance on an assessment of basic skills as prescribed by the Board of Education for individuals seeking entry into an approved education endorsement program. 2. The professional education program shall provide clinically-based, structured and integrated field experiences. 3. The professional education program shall provide evidence of opportunities for candidates to participate in diverse school settings that provide experiences with populations that include racial, economic, linguistic, and ethnic diversity throughout the program experiences.

	4. The professional education program shall provide evidence of contributions to preK-12 student achievement by candidates completing the program. 5. The professional education program shall provide evidence of employer job satisfaction with candidates completing the program. 6. The professional education program shall develop and provide evidence of biennial accountability measures for partnerships and collaborations based on preK-12 school needs. D. After submitting to the Department of Education the information contained in 8VAC20-542-50, education endorsement programs in Virginia shall receive one of the following three ratings: 1. Approved. The education endorsement program has met all standards set forth in 8VAC20-542-40. 2. Approved with stipulations. The education endorsement program has met standards in subsections A and B of this section and is making documented progress toward meeting standards in subsection C of this section. Biennial passing rates that fall below the 80 percent requirement for program completers and non-completers shall result in the education endorsement program receiving a rating of "approved with stipulations." The passing rate for program completers and non-completers must meet the 80 percent passing rate requirement by the end of the next biennial period in order for the program to be approved; if the 80 percent pass rate is not achieved, the program will be denied. 3. Approval denied. Approval may be denied if: a. The education endorsement program has not met standards in subsection A; b. The education endorsement program has met standards in subsection A but has not met requirements in subsection B for two consecutive biennial reporting periods. The program shall be denied and the public notified. The program may resubmit a request for approval at the end of the next biennial period.
ADMINISTERING THE REGULATIONS	
Administering the Regulations	**8VAC-20-542-20** Education endorsement programs in Virginia shall address the competencies set forth in the regulations, and the curriculum for each program must be documented and submitted to the Department of Education for approval. The Department of Education will determine the timeline and procedures for applying for education endorsement program approval.

COMPETENCIES FOR ENDORSEMENT AREAS	
Arts and sciences degree requirements; specializations, concentrations, and semester-hour requirements and options	**8VAC20-542-80** Candidates in early/primary education preK-3, elementary education preK-6, and special education must complete a minimum of six semester hours of reading coursework as outlined in the reading competencies. Candidates seeking an early/primary education preK-3, elementary education preK-6 endorsement shall complete 12-15 semester hours each in English, history and social sciences, mathematics, and science addressing competencies set forth in these regulations or complete the following: English: six semester hours in English <u>and</u> pass a rigorous assessment in elementary English prescribed by the Board of Education; History and social sciences: six semester hours in history and social sciences <u>and</u> pass a rigorous assessment in elementary history and social sciences prescribed by the Board of Education. Mathematics: six semester hours in mathematics, a methods of teaching elementary mathematics course, <u>and</u> pass a rigorous assessment in elementary education prescribed by the Board of Education. Science: six semester hours in laboratory sciences in two science disciplines, a methods of teaching elementary science course, <u>and</u> pass a rigorous assessment in elementary science prescribed by the Board of Education. Candidates seeking an endorsement in special education-general curriculum K-12 must have one area of specialization in English, history and social sciences, mathematics, or science with 12 to 15 semester hours in the specialization area. Candidates seeking a middle education endorsement must have an area of concentration in English, history and social sciences, mathematics, or science with 21-24 semester hours in the concentration area.
COMPETENCIES	
Competencies	**8VAC20-542-90 – 8VAC-542-640** Competencies for professional studies and endorsements have been revised.
ENDORSEMENTS	
Endorsements and Competencies Added to Regulations	■ Engineering **[8VAC-20-542-280]** ■ Add-on Endorsements in Special Education-General Curriculum (Elementary, Middle, and Secondary) **[8VAC-20-542-510 – 8VAC20-542-530]** ■ Mathematics Specialist for Elementary Education* **[8VAC-20-542-580]** ■ Mathematics Specialist for Middle Education* **[8VAC-20-542-590]** **Currently, the endorsement is combined, Mathematics Specialist for Elementary and Middle Education.*

Discontinue Endorsements	■ Special Education-Speech-Language Disorders PreK-12 Individuals will seek a license from the Virginia Board of Examiners for Audiology and Speech Pathology. ■ Career and Technical Education: Industrial Cooperative Training (ICT)

PROPOSED REVISIONS TO THE

Regulations Governing the Review and Approval of Education Programs in Virginia

8VAC20-542-10 et seq.

Presented to the
Virginia Board of Education
First Review (Proposed Stage)
May 23, 2013

Virginia Department of Education
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STATE BOARD OF EDUCATION
CHAPTER 542
REGULATIONS GOVERNING THE REVIEW AND APPROVAL OF EDUCATION PROGRAMS IN VIRGINIA

Part I
Definitions

8VAC20-542-10. Definitions.

The following words and terms when used in this chapter shall have the meanings indicated unless the context implies otherwise:

"Accreditation" means a process for assessing and improving academic and educational quality through voluntary peer review. This process informs the public that an institution has a professional education ~~unit~~ program that has met national standards of educational quality.

"Accredited institution" means an institution of higher education accredited by a regional accrediting agency recognized by the United States Department of Education.

"Accredited program" means a Virginia professional education program accredited by the ~~National Council for the Accreditation of Teacher Education (NCATE), the Teacher Education Accreditation Council (TEAC),~~ Council for the Accreditation of Educator Preparation (CAEP), including CAEP/National Council for the Accreditation of Teacher Education (NCATE) and CAEP/Teacher Education Accreditation Council (TEAC). ~~, or a process approved by the Board of Education.~~

"Annual Report Card" means the Virginia Department of Education yearly data report card required of all professional education programs in Virginia that offer approved programs for the preparation of school personnel.

"Biennial accountability measures" means those specific benchmarks set forth in 8VAC20-542-40 to meet the standards required to obtain or maintain education endorsement program approval status.

"Biennial Accountability Measurement R~~r~~eport" means the compliance report submitted to the Virginia Department of Education every two years by an accredited professional education program ~~approved education programs~~.

"Candidates" means individuals enrolled in education programs.

~~"Candidates completing a program" means individuals who have successfully completed all coursework, required assessments, including those prescribed by the Board of Education, and supervised student teaching or required internship.~~

~~"Candidates exiting a program" means individuals who have successfully completed all coursework, regardless of whether the individuals attempted, passed, or failed required assessments, including those prescribed by the Board of Education, and/or who may not have completed supervised student teaching or required internship.~~

~~"Distance learning" means a formal educational process in which the majority of the instruction occurs when the learner and the instructor are not in the same place at the same time. In this process, information or distributed learning technology is the likely connector between the learner, the instructor, or the site of program origin.~~

"Diversity" means the wide range of differences among groups of people and individuals based on ethnicity, race, socioeconomic status, gender, exceptionalities, language, religion, and geographical area.

~~"Education program" means a planned sequence of courses and experiences leading to a degree, a state license, or preparation to provide educator preparation program services in schools.~~

"Education endorsement program" means a state-approved course of study, the completion of which signifies that an enrollee has met all the state's educational and/or training requirements for initial licensure in a specified endorsement area.

~~"Exceptionalities" means physical, mental, sensory, and emotional disabilities or differences, including gifted/talented abilities.~~

"Field experiences" means program components that are conducted in off-campus settings or on-campus settings dedicated to the instruction of children who would or could otherwise be served by school divisions in Virginia, or accredited nonpublic schools, and are accredited for this purpose by external entities such as regional accrediting agencies. They include classroom observations, tutoring, assisting teachers and school administrators, and supervised clinical experiences (i.e., practica, student teaching, and internships).

~~"Full-time faculty" means employees of a higher education institution with full-time assignments within the education program as instructors, professors, administrators, or other professional support personnel (e.g., student teaching supervisor or advisor).~~

~~"General education" means courses and other learning experiences in the liberal arts and sciences that candidates in baccalaureate programs typically complete in the first two or three years of their programs for the purpose of becoming liberally educated college students~~.

~~"Governance" means the system and structure for defining policy and administering procedures for the professional educator preparation program.~~

"Indicators" means operational definitions that suggest the kinds of evidence that professional education programs shall provide to demonstrate that a standard is met.

"Instructional technology" means the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning and the use of computers and other technologies.

"Licensing" means the official recognition by a state governmental agency that an individual has met state requirements and is, therefore, approved to practice as a licensed professional.

~~"Part-time faculty" means employees of a higher education institution who have less than a full-time assignment in the education program. Some part-time faculty are full-time employees of the college or university with a portion of their assignments in the education program. Other part-time faculty are not full-time employees of the institution and are commonly considered adjunct faculty.~~

~~"Pedagogical studies" means courses and other learning experiences in which candidates study and apply concepts, theories, and research about effective teaching.~~

"~~Professional education faculty" means those individuals who teach one or more courses meeting essential competencies in endorsement areas, provide services to education students (e.g., advising or supervising student teaching) or administer some portion of the educator preparation program.~~

"Professional education program" means the Virginia institution, college, school, department, or other administrative body within a Virginia institution of higher education, or another Virginia entity for a defined ~~educator~~ education ~~preparation~~ program that is primarily responsible for the preparation of teachers and other professional school personnel.

"Professional studies" means courses and other learning experiences designed to prepare ~~teach~~ candidates to demonstrate competence in the areas of human development and learning, curriculum and instruction, assessment of and for learning, classroom and behavior management, the teaching profession, reading, and supervised clinical experiences. ~~the historical, economic, sociological, philosophical, and psychological foundations of schooling and education.~~

"Program approval" means the process by which a state governmental agency reviews an education program to determine if it meets the state's standards for the preparation of school personnel.

"Program completers" means individuals who have successfully completed all coursework, required licensure assessments, including those prescribed by the Board of Education, and supervised student teaching or required internship.

"Program non-completers" means individuals who have been officially admitted into the education program and who have taken, regardless of whether the individuals passed or failed, required licensure assessments, and who exit the program prior to completion. Program non-completers shall have been officially released (in writing) from an education endorsement program by an authorized administrator of the program. Program non-

completers who did not take required assessments are not included in biennial reporting pass rates.

"Regional accrediting agency" means one of the six accrediting associations, including New England Association of Schools and Colleges, Middle States Association of Colleges and Schools, North Central Association of Colleges and Schools, ~~Northwest Association of Schools and Colleges~~ Northwest Commission on Colleges and Universities, Southern Association of Colleges and Schools, and Western Association of Schools and Colleges, recognized by the United States Department of Education.

~~"Scholarly activities" means the active involvement in an individual's area of specialization as demonstrated through such faculty activities as research, articles published in refereed journals, program evaluation studies, documentation of ongoing activities, grant seeking, and presentations at professional meetings~~.

~~"School faculty" means licensed practitioners in preK-12 schools who provide on-site instruction, supervision, and direction for candidates during field based assignments.~~

"Standards of Learning for Virginia public schools" means the Commonwealth's expectations for student learning and achievement in grades K-12 in English, mathematics, science, history/social science, technology, the fine arts, foreign language, health, and physical education, and driver education.

Part II
Administering the Regulations

8VAC20-542-20. Administering the regulations.

~~D~~A. Institutions of higher education seeking approval of an education endorsement program shall be accredited by a regional accrediting agency.

~~A~~B. Professional education programs in Virginia shall obtain national accreditation from the ~~National Council for the Accreditation of Teacher Education (NCATE), the Teacher Education Accreditation Council (TEAC), or a process approved by the Board of Education~~ Council for the Accreditation of Educator Preparation (CAEP), including CAEP/ National Council for the Accreditation of Teacher Education (NCATE) and CAEP/ Teacher Education Accreditation Council (TEAC).

~~E~~C. If a professional education program fails to maintain accreditation, enrolled candidates shall be permitted to complete their programs of study. Professional education programs shall not admit new candidates. Candidates shall be notified of the education endorsement program's approval status.

~~C. Professional studies coursework and methodology, excluding field experiences, are limited to 24 semester hours for any baccalaureate degree program (or equivalent thereof) in early/primary education (preK-3), elementary education (preK-6), and~~

~~special education. All other baccalaureate degree programs (or equivalent thereof) shall not exceed 18 semester hours of professional coursework and methodology, excluding field experiences.~~

~~B~~D. Teacher candidates shall complete academic degrees in the arts and sciences (or equivalent), except in health, physical, and career and technical education. Candidates in early/primary education preK-3, elementary education (preK-6), middle education (6-8), and special education programs may complete a major in interdisciplinary studies or its equivalent. Candidates seeking a secondary endorsement area must have earned a major (or the equivalent) in the area sought.

E. Professional studies coursework and methodology, including field experiences, required in these regulations shall be designed for completion within a baccalaureate degree program.

F. Education programs shall ensure that candidates complete study in child abuse recognition and intervention and demonstrate proficiency in the use of educational technology for classroom instruction.

G. Standards and procedures for the review and approval of each education endorsement program shall adhere to procedures for administering the regulations as defined in this section and in 8VAC20-542-40, 8VAC20-542-50, and 8VAC20-542-~~7~~60. These procedures shall result in biennial recommendations to the Board of Education for one of the following three ratings: "approved," "approved with stipulations," or "approval denied."

H. Education endorsement programs shall be approved under these regulations biennially based on compliance with the criteria described in 8VAC20-542-40, 8VAC20-542-50, and 8VAC20-542-60.

I. The Department of Education will determine the timeline and procedures for applying for education endorsement program approval.

J. Education endorsement programs in Virginia shall address the competencies set forth in the regulations, and the curriculum for each program must be documented and submitted to the Department of Education for approval.

~~I~~K. Professional education programs shall submit to the Department of Education, on behalf of each education endorsement program under consideration, a Biennial Accountability Measurement Report and an Annual Report Card to include data, prescribed by the Board of Education, on education endorsement programs ~~Program Compliance Certification Affidavit~~ in accordance with Department procedures and timelines.

~~J~~L. The professional education program authorized administrator shall maintain copies of approved education endorsement programs and required reports.

~~K~~M. The Department of Education may conduct on-site visits to review education endorsement programs and verify data.

~~L~~N. The Advisory Board on Teacher Education and Licensure (ABTEL) is authorized to review and make recommendations to the Board of Education on approval of Virginia education endorsement programs for school personnel. The Board of Education has final authority on education endorsement program approval.

~~M~~O. Modifications may be made by the Superintendent of Public Instruction in the administration of these regulations. Proposed modifications shall be made in writing to the Superintendent of Public Instruction, Commonwealth of Virginia.

Part III

Accreditation of Virginia Professional Education Programs ~~or a Process Approved by the Board of Education~~

8VAC20-542-30. ~~Options for~~ A~~a~~ccreditation of Virginia professional education programs ~~or a process approved by the Board of Education~~.

A. Each professional education program in Virginia shall obtain and maintain national accreditation from the ~~National Council for the Accreditation of Teacher Education (NCATE), the Teacher Education Accreditation Council (TEAC), or a process approved by the Board of Education~~ Council for the Accreditation of Educator Preparation (CAEP), including CAEP/ National Council for the Accreditation of Teacher Education (NCATE) and CAEP/ Teacher Education Accreditation Council (TEAC).

~~B. Each Virginia professional educator preparation program seeking accreditation through a process approved by the Board of Education shall be reviewed. A report of the review shall be submitted to the Board of Education in accordance with established timelines and procedures and shall include one of the following recommendations:~~

~~1. Accredited. The professional education program meets standards outlined in 8VAC20-542-60.~~

~~2. Accredited with stipulations. The professional education program has met the standards minimally, but significant weaknesses have been identified. Within a two-year period, the professional education program shall fully meet standards as set forth in 8VAC20-542-60.~~

~~3. Accreditation denied. The professional education program has not met standards as set forth in 8VAC20-542-60. The State Council of Higher Education for Virginia (SCHEV) shall be notified of this action by the Department of Education.~~

~~C. Professional education program accreditation that has been denied may be considered by the Board of Education after two years if a written request for review is submitted to the Department of Education.~~

~~D~~B. Professional education programs in Virginia seeking accreditation through CAEP/NCATE or CAEP/TEAC ~~, or an accreditation process approved by the Board of Education~~ shall adhere to the following requirements:

1. Accredited professional education programs shall be aligned with standards in 8VAC20-542-~~60~~ 40 through 8VAC20-542-50; and

2. Accredited professional education programs shall be aligned with competencies in 8VAC20-542-~~7~~60 through 8VAC20-542-620.

~~E. Professional education programs in Virginia seeking accreditation through a process approved by the Board of Education shall follow procedures and timelines as prescribed by the Department of Education.~~

~~F~~C. Professional education programs in Virginia seeking accreditation through CAEP shall adhere to procedures and timelines established by CAEP and the CAEP/Virginia Partnership Agreement.

Part IV
Standards for Biennial Approval of Education Endorsement Programs

8VAC20-542-40. Standards for biennial approval of education endorsement programs.

~~Approved~~ ~~e~~Education endorsement programs in Virginia shall ~~have national accreditation or be accredited~~ be approved ~~a process approved~~ by the Board of Education and demonstrate achievement biennially of the following accountability measures~~:~~. The institution of higher education must report evidence of the standards for Board of Education review biennially.

1. Candidate progress and performance on prescribed Board of Education licensure assessments. ~~Candidate passing rates, reported by percentages, shall not fall below 70% biennially for individuals completing and exiting the program. Achievement of an 80% biennial passing rate shall be required by July 1, 2010. Candidates completing a program shall have successfully completed all coursework, required assessments, including those prescribed by the Board of Education, and supervised student teaching or internship. Candidates exiting a program shall have successfully completed all coursework, regardless of whether the individuals attempted, passed, or failed required assessments, including those prescribed by the Board of Education, and/or who may not have completed supervised student teaching or required internship.~~ Candidate passing rates, reported by percentages, shall not fall below 80 percent ~~%~~ biennially for program completers and program non-completers. (Program completers are individuals who have successfully completed all coursework, required

licensure assessments, and supervised student teaching or required internship. Program non-completers are those individuals who have been officially admitted into the education program and who have taken, regardless of whether the individual passed or failed, required licensure assessments, and who exit the program prior to completion. Program non-completers shall have been officially released (in writing) from an education endorsement program by an authorized administrator of the program.

2. Candidate progress and performance on an assessment of basic skills as prescribed by the Board of Education for individuals seeking entry into an approved education endorsement program.

   Indicators of the achievement of this standard shall include the following:

   a. Results on Board of Education prescribed entry-level assessments; and

   b. Documentation that candidates enrolled in the program who fail to achieve a minimum score established by the Board of Education have the opportunity to address any deficiencies.

   c. Documentation of the number of candidates admitted into the program who did not meet the prescribed admission assessment and the opportunities provided to the candidates to address any deficiencies.

3. Structured and integrated field experiences to include early clinical experiences and a summative supervised student teaching ~~requirements~~ experience.

   Indicators of the achievement of this standard shall include the following:

   a. Evidence that candidates receive quality clinically-based structured and integrated field experiences that prepare them to work in diverse educational environments; and

   b. Evidence that ~~at least 300 clock hours of field experiences for initial programs (including early exposure to preK-12 classroom experiences) to include a minimum of 150 clock hours of directed student teaching requirements are provided.~~ supervised clinical experiences are continuous and systematic and comprised of early field experiences with a minimum of 10 weeks of full-time student teaching under the supervision of a cooperating teacher with demonstrated effectiveness in the classroom. The supervised student teaching experience shall include ~~with~~ at least 150 clock hours spent ~~supervised~~ in direct teaching ~~activities (providing direct instruction)~~ at the level of endorsement.

4. Evidence of opportunities for candidates to participate in diverse school settings that provide experiences with populations that include racial, economic, linguistic, and ethnic diversity throughout the program experiences.

The indicator of the achievement of this standard shall include evidence that the professional education program provides opportunities for candidates to have program experiences in diverse school settings that provide experiences with populations that include racial, economic, linguistic, and ethnic diversity within each biennial period.

5. Evidence of contributions to preK-12 student achievement by candidates completing the program.

   Indicators of the achievement of this standard shall include the following:

   a. Evidence to show that candidates know about, create, and use appropriate and effective data-driven assessments in teaching that shall provide dependable information about student achievement;

   b. Evidence to document faculty have made provisions for evaluating effects that candidates have on preK-12 student learning in the context of teaching as they design unit assessment systems and assessments for each program; and

   c. Evidence that the education program assesses candidates' mastery of exit criteria and performance proficiencies, including the ability to affect student learning, through the use of multiple sources of data such as a culminating experience, portfolios, interviews, videotaped and observed performance in schools, standardized tests, and course grades.

6. Evidence of employer job satisfaction with candidates completing the program.

   ~~The~~ Indicators of the achievement of this standard shall include:

   a. ~~d~~Documentation that the professional education program has two years of evidence regarding candidate performance based on employer surveys.

   b. Documented evidence of teacher effectiveness, including student academic progress.

7. Partnerships and collaborations based on preK-12 school needs.

   Indicators of the achievement of this standard shall include the following:

   a. Documented evidence that the education endorsement program has established partnerships reflecting collaboratively designed program descriptions based on identified needs of the preK-12 community.

   b. Documented evidence that the administration and supervision program collaborates with partnering schools to identify and select candidates for school leadership

programs who meet local needs, demonstrate both potential for and interest in school leadership, and meet the qualifications for admission to advanced programs.

Part V

Application of Standards for Biennial Approval of Education Endorsement Programs

8VAC20-542-50. Application of the standards.

A. As a prerequisite to education endorsement program approval, professional education programs in Virginia shall have national accreditation ~~or be accredited by a process approved by the Board of Education as prescribed in 8VAC20-542-30 and 8VAC20-542-60~~. Failure to do so will result in the education endorsement program being designated as "approval denied."

B. The education endorsement program's candidate passing rates, reported by percentages, shall not fall below 80~~%~~ percent biennially for program completers and program non-completers. (Program completers are individuals who have successfully completed all coursework, required licensure assessments, and supervised student teaching or required internship. Program non-completers are those individuals who have been officially admitted into the education program and who have taken, regardless of whether the individual passed or failed, required licensure assessments, and who exit the program prior to completion. ~~70% biennially for individuals completing and exiting the program. Achievement of an 80% biennial passing rate for individuals completing and exiting the program shall be required by July 1, 2010.~~ Program non-completers shall have been officially released (in writing) from an education endorsement program by an authorized administrator of the program.

C. The professional education program's authorized administrator is responsible to certify documented evidence that the following standards as set forth in 8VAC20-542-40 have been met by the education endorsement program:

1. The professional education program shall demonstrate candidate progress and performance on an assessment of basic skills as prescribed by the Board of Education for individuals seeking entry into an approved education endorsement program.

2. The professional education program shall provide structured and integrated field experiences.

3. The professional education program shall provide evidence of opportunities for candidates to participate in diverse school settings that provide experiences with populations that include racial, economic, linguistic, and ethnic diversity throughout the program experiences.

4. The professional education program shall provide evidence of contributions to preK-12 student achievement by candidates completing the program.

5. The professional education program shall provide evidence of employer job satisfaction with candidates completing the program.

~~D~~6. The professional education program shall develop and provide evidence of biennial accountability measures ~~to be reviewed and approved by the Board of Education~~ for partnerships and collaborations based on preK-12 school needs.

~~E~~D. After submitting to the Department of Education the information contained in 8VAC20-542-50, education endorsement programs in Virginia shall receive one of the following three ratings:

1. Approved. The education endorsement program has met all standards set forth in 8VAC20-542-40.

2. Approved with stipulations. The education endorsement program has met standards in subsections A and B of this section and is making documented progress toward meeting standards in subsection~~s~~ C ~~and D~~ of this section. Biennial passing rates that fall below the 80 percent requirement for program completers and non-completers shall result in the education endorsement program receiving a rating of "approved with stipulations." The passing rate for program completers and non-completers must meet the 80 percent passing rate requirement by the end of the next biennial period in order for the program to be approved; if the 80 percent pass rate is not achieved, the program will be denied.

3. Approval denied. Approval may be denied if:

   a. The education endorsement program has not met standards in subsection~~s~~ A; ~~and B of this section.~~

   b. The education endorsement program has met standards in subsection A but has not met requirements in subsection B for two consecutive biennial reporting periods. The program shall be denied and the public notified. The program may resubmit a request for approval at the end of the next biennial period.

~~Part VI~~
~~Standards for Board of Education Approved Accreditation Process~~

~~8VAC20-542-60. Standards for Board of Education approved accreditation process.~~

~~A. Standard 1: Program Design. The professional educator preparation program shall develop and maintain high quality programs that are collaboratively designed and based~~

~~on identified needs of the preK-12 community. Indicators of the achievement of this standard shall include the following:~~

~~1. The program design includes a statement of program philosophy, purposes and goals.~~

~~2. The program design incorporates the specific knowledge and skills that are necessary for competence at the entry level for educational professionals.~~

~~3. The program design includes a knowledge base that reflects current research, best educational practice and the Virginia Standards of Learning.~~

~~4. The program is designed from a framework that is knowledge-based, evidenced-based and articulated and that has been collaboratively developed with various stakeholders.~~

~~5. The professional educator preparation programs for teachers, school leaders, and other school personnel shall develop the essential entry-level competencies needed for success in preK-12 schools by demonstrating alignment among the general, content, and professional courses and experiences. Indicators of the achievement of this standard shall include the following:~~

~~a. The professional educator preparation program develops, implements, and evaluates programs, courses, and activities that enable entry-level candidates to develop the knowledge, skills, and dispositions identified in the program design framework.~~

~~b. The professional educator preparation program assesses candidates' attainment of the knowledge, skills, and dispositions identified in the program design framework.~~

~~c. The professional educator preparation program provides evidence that candidates have achieved the knowledge, skills, and dispositions identified in the program design framework.~~

~~6. The professional educator preparation program shall have multiple well-planned, sequenced, and integrated field experiences that include observations, practica, student teaching, internships, and other opportunities to interact with students and the school environment. Indicators of the achievement of this standard shall include the following:~~

~~a. Field experiences provide opportunities for candidates to relate theory to actual practice in classrooms and schools, to create meaningful learning experiences for a variety of students, and to practice in settings with students of diverse backgrounds.~~

~~b. Field experiences provide opportunities for candidates to demonstrate competence in the professional teaching or administrative roles for which they are preparing, including opportunities to interact and communicate effectively with parents, community and other stakeholders.~~

~~c. Student teaching and other field experiences include a minimum of 300 clock hours, with at least 150 hours of that time spent in directed teaching activities at the level of endorsement. Programs in administration and supervision provide field experiences with a minimum of 320 clock hours as part of a deliberately structured internship over the duration of a preparation program.~~

~~d. Candidates in educator preparation programs complete field experiences, internships, or other supervised activities that allow them to develop and apply the new knowledge and skill gained in their programs.~~

~~e. Candidate performance in field experiences is evaluated and documented using multiple assessments, including feedback from education and arts and sciences faculty, school faculty, and peers, as well as self-reflection by candidates.~~

~~7. Educator preparation program faculty collaborate with arts and sciences faculty, school personnel, and other members of the professional community to design, deliver, assess, and renew programs for the preparation and continuing development of school personnel and to improve the quality of education in preK-12 schools. Indicators of the achievement of this standard shall include the following:~~

~~a. Educator preparation program faculty collaborate with the faculty who teach general and content courses to design and evaluate programs that shall prepare candidates to teach the Standards of Learning.~~

~~b. Partnership agreements ensure that educator preparation program faculty collaborate with personnel in partnering schools and school divisions to design and evaluate programs, teaching methods, field experiences, and other activities.~~

~~c. Partnership agreements ensure that educator preparation program faculty collaborate with personnel in partnering schools to assess candidates during observations, practica, student teaching, internships, and other field experiences.~~

~~d. Opportunities exist for educator preparation program faculty, school personnel, and other members of the professional community to collaborate on the development and refinement of knowledge bases, conduct research, and improve the quality of education.~~

~~B. Standard 2: Candidate Performance on Competencies for Endorsement Areas. Candidates in educator preparation programs shall demonstrate the knowledge, skills, and dispositions to meet professional, state, and institutional standards to ensure student success. Candidates shall demonstrate the competencies specified in 8VAC20-542-70 through 8VAC20-542-600.~~

~~1. Candidates in educator preparation programs have completed general education courses and experiences in the liberal arts and sciences and demonstrate the broad theoretical and practical knowledge necessary for teaching and preK-12 student~~

~~achievement. Indicators of the achievement of this standard shall include the following:~~

~~a. Candidates demonstrate that they have a full command of the English language, use standard English grammar, have rich speaking and writing vocabularies, are knowledgeable of exemplary authors and literary works, and communicate effectively in educational, occupational, and personal areas.~~

~~b. Candidates demonstrate that they can solve mathematical problems, communicate and reason mathematically, and make mathematical connections.~~

~~c. Candidates demonstrate that they develop and use experimental design in scientific inquiry, use the language of science to communicate understanding of the discipline, investigate phenomena using technology, understand the history of scientific discovery, and make informed decisions regarding contemporary issues in science, including science-related careers.~~

~~d. Candidates demonstrate that they know and understand our national heritage; and have knowledge and skills in American and world history, geography, government/political science, and economics that create informed and responsible citizens who can understand, discuss, and participate in democratic processes.~~

~~e. Candidates demonstrate that they have supporting knowledge in fine arts, communications, literature, foreign language, health, psychology, philosophy and/or other disciplines that contribute to a broad-based liberal education.~~

~~f. Candidates take basic entry-level competency assessments prescribed by the Virginia Board of Education.~~

~~g. Candidates achieve passing scores on professional content assessments for licensure prescribed by the Board of Education prior to completing their programs.~~

~~2. Candidates in educator preparation programs shall demonstrate the knowledge, skills, and dispositions to work with a variety of students, including those from diverse backgrounds, and to have a positive effect on student learning. Indicators of the achievement of this standard shall include the following:~~

~~a. Candidates demonstrate the ability to apply knowledge and skills related to the physical, neurological, social, emotional, intellectual, and cognitive development of children and youth; the complex nature of language acquisition and reading; and an understanding of contemporary educational issues including the prevention of child abuse, appropriate use of technology, and diversity.~~

~~b. Candidates demonstrate the ability to apply the principles of learning, methods for teaching reading, methods for teaching the content area, classroom and behavior~~

~~management, selection and use of teaching materials, and evaluation of student performance.~~

~~c. Candidates demonstrate the ability to have a positive effect on student learning through judging prior student learning; planning instruction; teaching; and assessing, analyzing, and reflecting on student performance.~~

~~d. Candidates demonstrate the ability to use educational technology to enhance student learning, including the use of computers and other technologies in instruction, assessment, and professional productivity.~~

~~e. Candidates demonstrate the ability to analyze and use various types of data to plan and assess student learning.~~

~~3. Candidates in graduate programs for other school personnel demonstrate competencies for educational leadership roles as school superintendents, principals and/or assistant principals, central office administrators and supervisors, school counselors, reading specialists, mathematics specialists, or school psychologists. They demonstrate the knowledge and understanding to lead schools that use effective educational processes, achieve increased student learning, and make strong and positive connections to the community. Indicators of the achievement of this standard shall include the following:~~

~~a. Candidates demonstrate understanding of the Virginia Standards of Learning and standards of appropriate specialty organizations, including how these standards relate to the leadership roles for which they are being prepared.~~

~~b. Candidates demonstrate the competencies specified in their intended licensure/endorsement areas as defined in 8VAC20-542-70 through 8VAC20-542-600.~~

~~c. Candidates achieve passing scores on the professional content assessments for licensure prescribed by the Board of Education prior to completing their programs.~~

~~d. Candidates demonstrate understanding of research, research methods, issues, trends, and research-based best practices that shall enhance the academic achievement of all preK-12 students and reduce academic achievement gaps among diverse preK-12 student groups.~~

~~e. Candidates demonstrate the ability to use educational technology, including computers and other technologies, in instruction, assessment, and professional development activities.~~

~~f. Candidates demonstrate the ability to use test data to revise instruction and enhance student achievement.~~

~~g. Candidates understand emerging issues that impact the school community and demonstrate the ability to collaborate with families, community members and other stakeholders.~~

~~h. Candidates demonstrate mastery of administration/supervision competencies through multiple sources of data such as internships, portfolios, and interviews, including employer satisfaction surveys.~~

~~C. Standard 3: Faculty in professional educator preparation programs. Faculty in the professional educator preparation program represent well-qualified education scholars who are actively engaged in teaching and learning.~~

~~1. The full-time and part-time educator preparation program faculty, including school faculty, adjunct faculty and others, represent diverse backgrounds, are qualified for their assignments and are actively engaged in the professional community. Indicators of the achievement of this standard shall include the following:~~

~~a. Educator preparation program faculty have completed formal advanced study; have earned doctorates or the equivalent, or exceptional expertise in their field.~~

~~b. Educator preparation program faculty have demonstrated competence in each field of endorsement area specialization.~~

~~c. Educator preparation program faculty demonstrate understanding of current practice related to the use of computers and technology and integrate technology into their teaching and scholarship.~~

~~d. Educator preparation program faculty demonstrate understanding of Virginia's Standards of Learning.~~

~~e. Educator preparation program faculty demonstrate understanding of cultural differences and exceptionalities and their instructional implications.~~

~~f. Educator preparation program faculty who supervise field experiences have had professional teaching experiences in preK-12 school settings.~~

~~g. Educator preparation program faculty are actively involved with the professional world of practice and the design and delivery of instructional programs in preK-12 schools~~

~~h. Educator preparation program faculty are actively involved in professional associations and participate in education-related services at the local, state, national, and international levels in areas of expertise and assignment.~~

~~2. Teaching in the professional educator preparation program is of high quality and is consistent with the program design and knowledge derived from research and sound~~

~~professional practice. Indicators of the achievement of this standard shall include the following:~~

~~a. Educator preparation program faculty use instructional teaching methods that reflect an understanding of different models and approaches to learning and student achievement.~~

~~b. The teaching of educator preparation program faculty encourages candidates to reflect, think critically and solve problems.~~

~~c. The teaching of educator preparation program faculty reflects knowledge and understanding of cultural diversity and exceptionalities.~~

~~d. The teaching of educator preparation program faculty is continuously evaluated, and the results are used to improve teaching and learning within the program.~~

~~3. The professional educator preparation program ensures that policies and assignments are in keeping with the character and mission of the institution or other educator preparation program entity and allows Educator preparation program faculty to be involved effectively in teaching, scholarship, and service. Indicators of the achievement of this standard shall include the following:~~

~~a. Workload policies and assignments accommodate and support the involvement of educator preparation program faculty in teaching, scholarship, and service, including working in preK-12 schools, curriculum development, advising, administration, institutional committee work, and other internal service responsibilities.~~

~~b. Policies governing the teaching loads of educator preparation program faculty, including overloads and off-site teaching, are mutually agreed upon and allow faculty to engage effectively in teaching, scholarship, and service.~~

~~c. Recruitment and retention policies for educator preparation program faculty include an explicit plan with adequate resources to hire and retain a qualified and diverse faculty. The plan is evaluated annually for its effectiveness in meeting recruitment goals.~~

~~4. The professional educator preparation program ensures that there are systematic and comprehensive activities to enhance the competence and intellectual vitality of the educator preparation program faculty. Indicators of the achievement of this standard shall include the following:~~

~~a. Policies and practices encourage educator preparation program faculty to be continuous learners.~~

~~b. Support is provided for educator preparation program faculty and others who may contribute to professional educator preparation program to be regularly involved in professional development activities.~~

~~c. Educator preparation program faculty are actively involved in scholarly activities that are designed to enhance professional skills and practice.~~

~~d. Regular evaluation of educator preparation program faculty includes contributions to teaching, scholarship, and service.~~

~~e. Evaluations are used systematically to improve teaching, scholarship, and service of the educator preparation program faculty.~~

~~D. Standard 4: Governance and Capacity. The professional educator preparation program demonstrates the governance and capacity to prepare candidates to meet professional, state, and institutional standards.~~

~~1. The professional educator preparation program is clearly identified and has the responsibility, authority, and personnel to develop, administer, evaluate, and revise all educator preparation programs. Indicators of the achievement of this standard shall include the following:~~

~~a. The professional educator preparation program has responsibility and authority in the areas of education faculty selection, tenure, promotion, and retention decisions; recruitment of candidates; curriculum decisions; and the allocation of resources for professional educator preparation program activities.~~

~~b. The program has a long-range plan that is regularly monitored to ensure the ongoing vitality of the professional educator preparation programs as well as the future capacity of its physical facilities.~~

~~c. Candidates, school faculty in partnering school divisions, adjunct faculty, and other members of the professional community are actively involved in the policy-making and advisory bodies that organize and coordinate programs of the professional educator preparation program.~~

~~d. Policies and practices of the professional educator preparation program are nondiscriminatory and guarantee due process to faculty and candidates.~~

~~2. The professional educator preparation program has adequate resources to offer quality programs that reflect the mission of the professional educator preparation program and support teaching and scholarship by faculty and candidates. Indicators of achievement of this standard shall include the following:~~

~~a. The size of the professional educator preparation program, the number of candidates, and the number of faculty, administrators, clerical and technical support staff support the consistent delivery and quality of each program offered.~~

~~b. Facilities, equipment, technology, and other budgetary resources are sufficient for the operation and accountability of the professional educator preparation program.~~

~~c. Resources are allocated to programs in a manner that allows each program to meet its anticipated outcomes.~~

~~d. The institution provides training in and access to education-related electronic information, video resources, computer hardware, software, related technologies, and other similar resources to higher education faculty and candidates.~~

~~3. The professional educator preparation program shall ensure that full, part-time, and adjunct faculty are provided with appropriate resources such as office space, access to technology, teaching aids, materials and other resources necessary to ensure quality preparation of school personnel.~~

Part VI
Professional Education Program Accountability

8VAC20-542-60. Biennial Accountability Measurement Report.

The accredited professional education program shall report, every two years, in accordance with Virginia Department of Education procedures, those specific criteria set forth in 8VAC20-542-40 to meet the standards required to obtain or maintain education endorsement program approval status.

8VAC20-542-70. Annual Report Card.

The accredited professional education program shall submit to the Virginia Department of Education a yearly data report card on the preparation of professional school personnel. The report card shall be published on the Department's Web site. The information required on the report card shall be approved by the Board of Education and will include the following:

1. Institution's accreditation status;

2. Education endorsement program status;

3. Number of candidate's admitted in education endorsement programs;

4. Number of program completers, including number of program completers in critical shortage teaching areas;

5. Biennial accountability data results;

6. Number of candidates admitted into the program who did not meet the prescribed admission assess~~s~~ment and the opportunities provided to candidates to address any deficiencies;

7. Satisfaction ratings by school administrators and clinical experience supervisors; and

8. Other data as required by the Board of Education.

Part VII
Competencies for Endorsement Areas

Article 1
General Competencies

8VAC20-542-~~7~~80. Competencies and requirements for endorsement areas.

A. The professional education program develops, maintains, and continuously evaluates high quality ~~professional~~ education endorsement programs that are collaboratively designed and based on identified needs of the preK-12 community. Candidates in education endorsement programs shall ~~for teachers~~ demonstrate competence in the ~~core academic content~~ areas ~~that~~ in which they plan to ~~teach~~ practice~~.~~, complete professional studies requirements and applicable assessments, in addition to meeting requirements for specific licenses, pursuant to the *Licensure Regulations for School Personnel* (8VAC 20-22-10 et seq.). The *Licensure Regulations for School Personnel* set forth the required degrees from regionally accredited colleges or universities for licenses, endorsements, and any prerequisite licenses or endorsements for add-on endorsements.)

~~The indicator of the achievement of this standard shall include the following:~~

~~Candidates in education endorsement programs demonstrate an understanding of competencies, including the core concepts and facts of the disciplines and the Virginia Standards of Learning for the content areas they plan to teach where required.~~

B. All ~~teacher~~ education endorsement programs in early/primary preK-3, elementary education preK-6, middle education 6-8, and history and social sciences must include local government and civics instruction specific to Virginia.

C. Candidates in education endorsement programs demonstrate an understanding of competencies, including the core concepts and facts of the disciplines and the Virginia Standards of Learning for the content areas they plan to teach where required.

~~The~~ I~~i~~ndicators of the achievement of this standard shall include the following:

1. Candidates in early/primary education preK-3, elementary education preK-6, and special education complete a minimum of six semester hours of reading coursework as outlined in the reading competencies.

2. Candidates seeking an early/primary education preK-3 or an elementary education preK-6 endorsement must complete 12-15 semester hours each in English, history and social sciences, mathematics, and science addressing competencies set forth in these regulations or complete the following:

   a. English: six semester hours in English and pass a rigorous assessment in elementary English prescribed by the Board of Education.

   b. History and social sciences: six semester hours in history and social sciences and pass a rigorous assessment in elementary history and social sciences prescribed by the Board of Education.

   c. Mathematics: six semester hours in mathematics, a methods of teaching elementary mathematics course, and pass a rigorous assessment in elementary mathematics prescribed by the Board of Education.

   d. Science: six semester hours in laboratory sciences in two science disciplines, a methods of teaching elementary science course, and pass a rigorous assessment in elementary science prescribed by the Board of Education.

3. Candidates seeking an endorsement in special education-general curriculum K-12 must have one area of specialization in English, history and social sciences, mathematics, or science with 12-15 semester hours in the specialization area.

4. Candidates seeking a middle education endorsement must have an area of concentration in English, history and social sciences, mathematics, or science with 21-24 semester hours in the concentration area.

Article 2
Early/Primary Education, Elementary Education, and Middle Education Endorsements

8VAC20-542-~~8~~90. Professional studies requirements for early/primary education, elementary education, and middle education.

Professional studies requirements for early/primary education, elementary education, and middle education:

1. Human ~~growth and~~ development and learning (birth through adolescence). Skills in this area shall contribute to an understanding of the physical, social, emotional, speech and language, and intellectual development of children and the ability to use this understanding in guiding learning experiences and relating meaningfully to students. The interaction of children with individual differences – economic, social,

racial, ethnic, religious, physical, and mental – should be incorporated to include skills contributing to an understanding of developmental disabilities and developmental issues related to but not limited to low socio-economic status, attention deficit disorders, developmental disorders, gifted education including the use of multiple criteria to identify gifted students, substance abuse, child abuse, and family disruptions.

2. Curriculum and instruction~~al procedures~~.

   a. Early/primary education preK-3 or elementary education preK-6 curriculum and instruction. Skills in this area shall contribute to an understanding of the principles of learning; the application of skills in discipline-specific methodology; effective communication with and among students ~~processes~~; selection and use of materials, including media and ~~computers~~ contemporary technologies; selection, development and use of appropriate curricula, methodologies, and materials that support and enhance student learning and reflect the research on unique, age-appropriate, and culturally relevant curriculum and pedagogy~~; evaluation of pupil performance; and the relationships among assessment, instruction, and monitoring student progress to include student performance measures in grading practices, the ability to construct and interpret valid assessments using a variety of formats in order to measure student attainment of essential skills in a standards-based environment, and the ability to analyze assessment data to make decisions about how to improve instruction and student performance~~. ~~The teaching methods~~ Understanding of the principles of online learning and online instructional strategies and the application of skills to deliver online instruction must be included. Instructional practices that are sensitive to culturally and linguistically diverse learners, including ~~for~~ limited English proficient students, gifted and talented students and those students with ~~disabling conditions~~disabilities~~,~~; ~~must be~~and appropriate for the level of endorsement (preK-3 or preK-6) sought shall be included. Teaching methods shall ~~and~~ be tailored to promote student engagement and student academic progress and effective preparation for the Standards of Learning assessments. Study in methods of improving communication between schools and families, communicating with families regarding social and instructional needs of children, ways of increasing family involvement in student learning at home and in school, the Virginia Standards of Learning, and Virginia Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds shall be included. Early childhood educators must understand the role of families in child development and in relation to teaching educational skills.~~ They must demonstrate knowledge in relation to teaching educational skills. They must demonstrate knowledge and skills in communicating with families regarding the social and instructional needs of children.~~ Early childhood educators must understand the role of the informal and play-mediated settings for promoting students' skills and development and must demonstrate knowledge and skill in interacting in such situations to promote specific learning outcomes as reflected in Virginia's Foundation Blocks for Early Learning. Demonstrated proficiency in the use of educational technology for instruction shall be included. Persons seeking initial licensure as teachers and

persons seeking licensure renewal as teachers for the first time shall complete study in child abuse recognition and intervention in accordance with curriculum guidelines developed by the Virginia Board of Education in consultation with the Virginia Department of Social Services that are relevant to the specific teacher licensure routes. Pre-student teaching experiences (field experiences) should be evident within these skills.

b. Middle education 6-8 curriculum and instruction~~al procedures~~. Skills in this area shall contribute to an understanding of the principles of learning; the application of skills in discipline-specific methodology; effective communication ~~processes~~ with and among students, selection and use of materials, including media and ~~computers~~ contemporary technologies; evaluation of pupil performance; and the relationships among assessment, instruction, and monitoring student progress to include student performance measures in grading practices, the ability to construct and interpret valid assessments using a variety of formats in order to measure student attainment of essential skills in a standards-based environment, and the ability to analyze assessment data to make decisions about how to improve instruction and student performance. ~~The teaching methods,~~ Understanding of the principles of online learning and online instructional strategies and the application of skills to deliver online instruction must be included. Instructional practices that are sensitive to culturally and linguistically diverse learners including ~~for~~ limited English proficient students, gifted and talented students, and students with ~~disabling conditions~~ disabilities, and must be appropriate for the middle education endorsement shall be included. Teaching methods shall ~~and~~ be tailored to promote student engagement and student academic progress and effective preparation for the Standards of Learning assessments. Study in methods of improving communication between schools and families, ways of increasing family involvement in student learning at home and in school, and the Standards of Learning shall be included. Demonstrated proficiency in the use of educational technology for instruction shall be included. Persons seeking initial licensure as teachers and persons seeking licensure renewal as teachers for the first time shall complete study in child abuse recognition and intervention in accordance with curriculum guidelines developed by the Virginia Board of Education in consultation with the Virginia Department of Social Services that are relevant to the specific teacher licensure routes. Pre-student teaching experiences (field experiences) should be evident within these skills.

~~c~~3. Classroom and behavior management. Skills in this area shall contribute to an understanding and application of research-based classroom and behavior management techniques, classroom community building, positive behavior supports, and individual interventions, including techniques that promote emotional well-being and teach and maintain behavioral conduct and skills consistent with norms, standards, and rules of the educational environment. This area shall address diverse approaches based upon behavioral, cognitive, affective, social and ecological theory and practice. Approaches should support professionally appropriate practices that promote positive redirection of behavior, development of social skills, and of self discipline.

Knowledge and an understanding of various school crisis management and safety plans and the demonstrated ability to create a safe, orderly classroom environment must be included. The link between classroom management and students' ages must be understood and demonstrated in techniques used in the classroom.

~~d~~4. Assessment of and for learning. Skills in this area shall be designed to develop an understanding and application of creating, selecting, and implementing valid and reliable classroom-based assessments of student learning, including formative and summative assessments. Assessments designed and adapted to meet the needs of diverse learners must be addressed. Analytical skills necessary to inform ongoing planning and instruction, as well as to understand, and help students understand their own progress and growth must be included. Skills also include the relationships among assessment, instruction, and monitoring student progress to include student performance measures in grading practices, the ability to interpret valid assessments using a variety of formats in order to measure student attainment of essential skills in a standards-based environment, and the ability to analyze assessment data to make decisions about how to improve instruction and student performance. Understanding of state assessment programs and accountability systems, including assessments used for student achievement goal setting as related to teacher evaluation and determining student academic progress, including knowledge of legal and ethical aspects of assessment. Skills include developing familiarity with assessments used in preK-12 education (e.g., diagnostic, college admission exams, industry certifications, placement assessments).

~~d~~5. ~~Foundations of education~~ The teaching profession. Skills in this area shall be designed to develop an understanding of the historical, philosophical, and sociological foundations underlying the role, development and organization of public education in the United States. Attention must be given to the legal status of teachers and students, including federal and state laws and regulations, school as an organization/culture, and contemporary issues and current trends in education, including the impact of technology on education. Local, state, and federal governance of schools, including the roles of teachers and schools in communities must be included. Professionalism and ethical standards, as well as personal integrity must be addressed. Knowledge and understanding of Virginia's *Guidelines for Uniform Performance Standards and Evaluation Criteria for Teachers* must be included. ~~The historical, philosophical, and sociological foundations of the instructional design based on assessment data (the relationships among assessment, instruction, and monitoring student progress to include student performance measures in grading practices, the ability to construct and interpret valid assessments using a variety of formats in order to measure student attainment of essential skills in a standards-based environment, and the ability to analyze assessment data to make decisions about how to improve instruction and student performance) must be addressed~~.

~~e~~6. Reading.

a. Early/primary preK-3 and elementary education preK-6 – language acquisition and reading and writing.

Skills listed for these endorsement areas represent the minimum competencies that a beginning teacher must be able to demonstrate. These skills are not intended to limit the scope of a beginning teacher's program. Additional knowledge and skills that add to a beginning teacher's competencies to deliver instruction and improve student achievement should be included as part of a quality learning experience.

Language acquisition: Skills in this area shall be designed to impart a thorough understanding of the Virginia English Standards of Learning as well as the complex nature of language acquisition ~~and reading~~ as a precursor to literacy~~,~~. Language acquisition shall follow the typical development of linguistic competence in the areas of phonetics, semantics, syntax, morphology, phonology, and pragmatics ~~to include phonemic awareness, concept of print, phonics, fluency, vocabulary development, and comprehension strategies. Additional skills shall include proficiency, in writing strategies, as well as the ability to foster appreciation of a variety of literature and independent reading~~.

Reading and writing: Skills in this area shall be designed to impart a thorough understanding of the Virginia English Standards of Learning as well as the reciprocal nature of reading and writing. Reading shall include phonemic awareness, concept of print, phonics, fluency, vocabulary development, and comprehension strategies. Writing shall include writing strategies, and conventions as supporting the composing/writing expression and usage/mechanics domains. Additional skills shall include proficiency in understanding the stages of spelling development, the writing process as well as the ability to foster appreciation of a variety of fiction and nonfiction text and independent reading.

~~Knowledge of typical language development, components and sequence of literacy development, and the connection between language development and literacy must be evident in coursework. Knowledge and skills in specific methods by which adults elicit and foster the components of language development must be included.~~

b. Middle education - language acquisition and reading development and ~~reading~~ literacy in the content areas.

Language acquisition and reading development: Skills in this area shall be designed to impart a thorough understanding of the complex nature of language acquisition and reading, to include phonemic awareness, phonics, fluency, vocabulary development, and comprehension strategies for adolescent learners. Additional skills shall include proficiency in writing strategies, as well as the ability to foster appreciation of a variety of fiction and nonfiction text and independent reading for adolescent learners.

Literacy in the content areas: Skills in this area shall be designed to impart an understanding of vocabulary development and comprehension skills in ~~all content~~ areas English, mathematics, science, history and social science and other content areas~~,~~. Strategies include~~ing~~ ~~a repertoire of questioning strategies~~ teaching students how to ask effective questions, summarize~~ing~~ and retell~~ing skills~~ both verbally and in writing, and to listen effectively~~,~~.~~and~~ Teaching strategies include ~~in~~ literal, interpretive, critical, and evaluative comprehension, as well as the ability to foster appreciation of a variety of ~~literature~~ fiction and nonfiction text and independent reading for adolescent readers.

~~(3)~~7. Supervised ~~classroom~~ clinical experiences. The ~~student teaching~~ supervised clinical experiences shall be continuous and systematic and comprised of early field experiences with a minimum of 10 weeks of full-time student teaching under the supervision of a cooperating teacher with demonstrated effectiveness in the classroom. The summative supervised student teaching experience ~~should provide for the prospective teacher to be in classrooms full time for a minimum of 300 clock hours (including pre- and post-clinical experiences)~~ shall include ~~with~~ at least 150 clock hours spent ~~supervised~~ in direct teaching ~~activities (providing direct instruction)~~ at the level of endorsement. One year of successful full-time teaching experience in the endorsement area in any public school or accredited nonpublic school may be accepted in lieu of the supervised student teaching experience. A fully licensed, experienced teacher shall be available in the school building to assist a beginning teacher employed through the alternate route.

8VAC20-542-~~9~~100. Early childhood for three- and four-year-olds (add-on endorsement).

The program in early childhood education for three- and four-year-olds shall ensure that the candidate has demonstrated the following competencies:

1. Understanding child growth and development from birth through age five, with a specific focus on three- and four-year-olds, including:

   a. Knowledge of characteristics and developmental needs of three- and four-year-olds, including the ability to recognize indicators of typical and atypical development, in the domains of language, social, emotional, cognitive, physical, and gross and fine motor development;

   b. Understanding of the multiple interacting influences on child development (biological and environmental), interconnectedness of developmental domains, the wide range of ages at which developmental skills are manifested, and the individual differences in behavioral styles; and

   c. Knowledge of child development within the context of family, culture, and society.

2. Understanding principles of developmental practice, with a focus on three- and four-year-olds, including practices that are:

a. Appropriate to the child's age and stage of development;

b. Appropriate for children with a wide range of individual differences in abilities, interests, and ~~behavioral~~ learning styles; and

c. Appropriate for the child's cultural background and experience.

3. Understanding health, ~~safety,~~ and nutritional practices that impact early learning including:

   a. Practices and procedures that support health status conducive to optimal development (e.g., health assessment, prevention of the spread of communicable disease, oral hygiene, reduction of environmental hazards, injury prevention, emergency preparedness);

   b. Indicators of possible child abuse or neglect and the appropriate response if such indicators are observed;

   c. Nutritional and dietary practices that support healthy growth and development while remaining sensitive to each family's preferences, dietary restrictions, and culture ~~family preferences~~;

   d. Skills for communicating with families about health and dietary concerns;

   e. Community resources that support healthy living; and

   f. Practices that allow children to become independent and knowledgeable about healthy living;

4. Understanding and application of formal and informal assessment procedures for documenting development and knowledge of how to use assessment to plan curriculum, including:

   a. Age and stage-appropriate methods for documenting, assessing, and interpreting development and learning ~~assessing and documenting development~~;

   b. Identifying and documenting children's interests, strengths and challenges; and

   c. Communicating with families to acquire and to share information relevant to assessment.

5. Understanding effective strategies for facilitating positive reciprocal relationships with children for teachers, families and communities~~,~~ through ~~including~~ mutual respect, communication strategies, collaborative linkages among families, and community

resources, and nurturing the capacity of family members to serve as advocates on behalf of children.

6. Understanding strategies for planning, implementing, assessing, and modifying physical and psychological aspects of the learning environment to support language, physical, cognitive, and social, as well as emotional well-being in children with a broad range of developmental levels, special needs, individual interests, and cultural backgrounds, including the ability to:

   a. Utilize learning strategies that stimulate curiosity, promote thinking, and encourage participation in exploration and play;

   b. Provide curriculum ~~experiences~~ that facilitate learning goals in content areas and provide opportunities to acquire concepts and skills that are precursors to academic content taught in elementary school;

   c. Adapt tasks to the child's zone of proximal development;

   d. Nurture children's development through firsthand experiences, opportunities to explore, examine and investigate real materials in authentic context, and engage in social interactions with peers and adults ~~relationships and active engagement in play~~;

   e. Select materials/equipment, arrange physical space, and plan schedules/routines to stimulate and facilitate development; and

   f. Collaborate with families, colleagues, and members of the broader community to construct learning environments that promote a spirit of unity, respect, and service in the interest of the common good.

7. Understanding strategies that create positive and nurturing relationships with each child based on respect, trust, ~~calm approaches, respect for diversity~~ and acceptance of individual differences in ability levels, temperament, and other characteristics, including the ability to:

   a. Emphasize the importance of supportive verbal and nonverbal communication;

   b. Establish classroom and behavior management practices that are respectful, meet children's emotional needs, clearly communicate expectations for appropriate behavior, promote pro-social behaviors, prevent or minimize behavioral problems through careful planning of the learning environment, teach conflict resolution strategies, and mitigate or redirect challenging behaviors; and

   c. Build positive, collaborative relationships with children’s families with regard to behavioral guidance.

8VAC20-542-1~~0~~10. Early/primary education preK-3.

The program for early/primary education preK-3 shall ensure that the candidate has demonstrated the following competencies:

1. Methods.

   a. Understanding of the knowledge, skills, and processes to support learners in achievement of Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and the Virginia Standards of Learning in English, mathematics, history and social science, science, and computer/technology;

   b. The ability to integrate English, mathematics, science, health, history and social sciences, art, music, drama, movement, and technology in learning experiences;

   c. The use of differentiated instruction and flexible groupings to meet the needs of learners at different stages of development, abilities, and achievement;

   d. The use of appropriate methods including those in visual and performing arts , to help learners develop knowledge and basic skills, sustain intellectual curiosity, and problem-solve;

   e. The ability to utilize effective classroom management skills through methods that shall build responsibility and self-discipline and maintain a positive learning environment;

   f. The ability to modify and manage learning environments and experiences to meet the individual needs of children, including children with disabilities, gifted children, children with limited proficiency in English, and children with diverse cultural needs;

   g. The ability to use formal and informal assessments to diagnose needs, plan and modify instruction, and record student progress;

   h. A commitment to professional growth and development through reflection, collaboration, and continuous learning;

   i. The ability to analyze, evaluate, apply quantitative and qualitative research; and

   j. The ability to use technology as a tool for teaching, learning, research, and communication.

2. Knowledge and skills.

   a. Reading/English. Understanding of the content, knowledge, skills, and processes for teaching Virginia's Foundation Blocks for Early Learning: Comprehensive

Standards for Four-Year-Olds and the Virginia Standards of Learning for English including: oral language (speaking and listening), reading, and writing, and how these standards provide the core for teaching English in grades preK-3 (early/primary licensure).

(1) Assessment and diagnostic teaching. The individual shall:

(a) Be proficient in the use of both formal and informal assessment and screening measures for the component of reading: phoneme awareness, letter recognition, decoding, fluency, vocabulary, reading levels, and comprehension; and

(b) Be proficient in the ability to use diagnostic data to tailor instruction for acceleration, intervention, remediation, and flexible skill-level groupings.

(2) Oral communication. The individual shall:

(a) Be proficient in the knowledge, skills, and processes necessary for teaching oral language (speaking and listening);

(b) Be proficient in developing students' phonological awareness skills;

(c) Demonstrate effective strategies for facilitating the learning of standard English by speakers of other languages and dialects;

(d) Demonstrate the ability to promote creative thinking and expression, as through storytelling, drama, choral/oral reading, etc.

(3) Reading/literature. The individual shall:

(a) Be proficient in explicit phonics instruction, including an understanding of sound/symbol relationships, syllables, phonemes, morphemes, decoding skills, and word attack skills;

(b) Be proficient in strategies to increase vocabulary/concept development;

(c) Be proficient in the structure of the English language, including an understanding of syntax;

(d) Be proficient in reading comprehension strategies for both fiction and nonfiction text predicting, retelling, summarizing and guiding students to make connections beyond the text;

(e) Demonstrate the ability to develop comprehension skills in all content areas;

(f) Demonstrate the ability to foster the appreciation of a variety of literature; and

(g) Understand the importance of promoting independent reading by selecting fiction and nonfiction books, at appropriate reading levels.

(4) Writing. The individual shall:

(a) Be proficient in the knowledge, skills, and processes necessary for teaching writing, including the domains of composing, written expression, and usage and mechanics and the writing process of planning, drafting, revising, editing, and sharing;

(b) Be proficient in systematic spelling instruction, including awareness of the purpose and limitations of "invented spelling," orthographic patterns, and strategies for promoting generalization of spelling study to writing; and

(c) Demonstrate the ability to teach the writing process: plan, draft, revise, edit, and share in the narrative, descriptive, and explanative modes.

(5) Technology. The individual shall demonstrate the ability to guide students in their use of technology for both process and product as they work with reading and writing.

b. Mathematics.

(1) Understanding of the mathematics relevant to the content identified in Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and the Virginia Standards of Learning and how the standards provide the foundation for teaching mathematics in grades preK-3. Experiences with practical applications and the use of appropriate technology and manipulatives should be used within the following content:

(a) Number systems, their structure, basic operations, and properties;

(b) Elementary number theory, ratio, proportion and percent;

(c) Algebra: fundamental idea of equality; operations with monomials and polynomials; algebraic fractions; linear and quadratic equations and inequalities, linear systems of equations and inequalities; radicals and exponents; arithmetic and geometric sequences and series; algebraic and trigonometric functions; and transformations among graphical, tabular, and symbolic form of functions;

(d) Geometry: geometric figures, their properties, relationships, Pythagorean Theorem; deductive and inductive reasoning; perimeter, area, and surface

area of two- and three-dimensional figures; coordinate and transformational geometry; and constructions;

(e) Probability and statistics: permutations and combinations; experimental and theoretical probability; prediction; data collection and graphical representations including box-and-whisker plots; measures of center ~~central tendency~~, spread of data, variability, range, and normal distribution; and

~~(f) Computer science: terminology, simple programming, and software applications.~~

(2) Understanding of the sequential nature of mathematics and vertical progression of mathematical standards.

(3) Understanding of the multiple representations of mathematical concepts and procedures.

(4) Understanding of and the ability to use the five processes – reasoning mathematically, solving problems, communicating mathematics effectively, making mathematical connections, and using mathematical models and representations at different levels of complexity.

(5) Understanding of the contributions of different cultures toward the development of mathematics, and the role of mathematics in culture and society.

(6) Understanding of the ~~role of technology and the ability~~ appropriate ~~to~~ use of calculators and ~~computers~~ technology in the teaching and learning of mathematics, including virtual manipulatives.

(7) Understanding of and the ability to use strategies to teach mathematics to diverse learners.

c. History and social sciences.

(1) Understanding of the knowledge, skills, and processes of history and the social science disciplines as defined in Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and the Virginia Standards of Learning and how the standards provide the necessary foundation for teaching history and social sciences, including in:

(a) History.

(i) The contributions of ancient civilizations to American social and political institutions;

(ii) Major events in Virginia history from 1607 to the present;

(iii) Key individuals, documents, and events in United States history; and

(iv) The evolution of American's constitutional republic, its ideas, institutions, and practices.

(b) Geography.

(i) The use of maps and other geographic representations, tools, and technologies to acquire, process, and report information;

(ii) The relationship between human activity and the physical environment in the community and the world; and

(iii) Physical processes that shape the surface of the earth.

(c) Civics.

(i) The privileges and responsibilities of good citizenship and the importance of the rule of law for the protection of individual rights;

(ii) The process of making laws in the United States and the fundamental ideals and principles of a republican form of government;

(iii) The understanding that Americans are a people of diverse ethnic origins, customs, and traditions, who are united by the basic principles of a republican form of government and a common identity as Americans; and

(iv) Local government and civics instruction specific to Virginia.

(d) Economics.

(i) The basic economic principles that underlie the United States market economy;

(ii) The role of the individual and how economic decisions are made in the market place; and

(iii) The role of government in the structure of the United States economy.

(2) Understanding of the nature of history and the social sciences, and how the study of the disciplines assists students in developing critical thinking skills in helping them to understand:

(a) The relationship between past and present;

(b) The use of primary sources such as artifacts, letters, photographs, and newspapers;

(c) How events in history are shaped both by the ideas and actions of people;

(d) Diverse cultures and shared humanity;

(e) Civic participation in a democracy; and

(f) The relationship between history, literature, art, and music.

d. Science.

(1) Understanding of the knowledge, skills, and processes of the ~~earth, life, and physical sciences~~ four core science disciplines as defined in Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and the Virginia Science Standards of Learning and how these standards provide a sound foundation for teaching science in the ~~elementary~~ early/primary grades.

(2) Understanding of the nature of ~~science~~ the theory and scientific inquiry, including the following:

(a) Function of research design and experimentation;

(b) ~~The role~~ Role and nature of science in explaining and predicting events and phenomena; ~~and~~

~~(b) The science skills of data analysis, measurement, observation, prediction, and experimentation.~~

(c) Practices required to provide empirical answers to research questions, including data collection and analysis, modeling, argumentation with evidence, and contracting explanations;

(d) Reliability of scientific knowledge and its constant scrutiny and refinement;

(e) Self-checking mechanisms used by science to increase objectivity, including peer review; and

(f) Assumptions, influencing conditions, and limits of empirical knowledge.

(3) Understanding of the knowledge, skills, and ~~processes~~ practices for conducting an active elementary science program, including the ability to:

(a) Design instruction reflecting the goals of the Virginia Science Standards of Learning;

~~(b) Conduct research projects and experiments in a safe environment;~~

(b) Implement classroom and laboratory safety rules/procedures, and ensure that students take appropriate safety precautions;

(c) Conduct research projects and experiments, including applications of the design process and technology;

(d) Conduct systematic field investigations using the school grounds, the community, and regional resources;

~~(c)~~(e) Organize key science content, skills and practices into meaningful units of instruction that actively engage students in learning;

~~(d)~~(f) ~~Adapt~~ Design instruction to meet the needs of diverse learners using a variety of techniques;

~~(e)~~(g) Evaluate instructional materials, ~~instruction, and student achievement;~~ technologies, and teaching practices; ~~and~~

(h) Conduct formative and summative assessments of student learning;

(i) Incorporate instructional technology to enhance student performance in science~~.~~; and

(j) Ensure student competence in science.

(4) Understanding of the content, processes, and skills of the four core science areas, including Earth sciences, biology, chemistry, and physics supporting the teaching of elementary school science as defined by the Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and Virginia Science Standards of Learning and equivalent to academic course work in each of these four core science areas.

(5) Understanding of the core scientific disciplines of Earth science, biology, chemistry, and physics to ensure:

(a) The placement of the four core scientific disciplines in an appropriate interdisciplinary contest;

~~(a)~~(b) The ability to teach the processes and ~~organizing~~ crosscutting concepts common to the natural and physical sciences; ~~and~~

~~(b) Student achievement in science.~~

(c) The application of key science principles to solve practical problems; and

(d) A "systems" understanding of the natural world.

(6) Understanding of the contributions and significance of science, including:

(a) Its social, ~~and~~ cultural, and economic significance;

(b) The relationship of science to mathematics, the design process, and technology; and

(c) The historical development of scientific concepts and scientific reasoning.

8VAC20-542-1~~1~~20. Elementary education preK-6.

The program in elementary education preK-6 may require that the candidate has completed an undergraduate major in interdisciplinary studies (focusing on the areas of English, mathematics, history and social sciences, and science) or in Virginia's core academic areas of English, mathematics, history and social sciences (i.e., history, government, geography and economics), or science and demonstrated the following competencies:

1. Methods.

a. Understanding of the needed knowledge, skills, and processes to support learners in achievement of Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and the Virginia Standards of Learning in English, mathematics, history and social science, science, and computer/technology;

b. Understanding of current research on the brain, its role in learning, and implications for instruction;

~~b~~c. The ability to integrate English, mathematics, science, health, history and social sciences, art, music, drama, movement, and technology in learning experiences;

~~c~~d. The use of differentiated instruction and flexible groupings to meet the needs of learners at different stages of development, abilities, and achievement;

~~d~~e. The use of appropriate methods , including those in visual and performing arts, to help learners develop knowledge and basic skills, sustain intellectual curiosity, and problem-solve;

~~e~~f. The ability to utilize effective classroom and behavior management skills through methods that shall build responsibility and self-discipline and maintain a positive learning environment;

~~f~~g. The ability to modify and manage learning environments and experiences to meet the individual needs of children, including children with disabilities, gifted children, and children with limited proficiency in English, and children with diverse cultural needs;

~~g~~h. The ability to use formal and informal assessments to diagnose needs, plan and modify instruction, and record student progress;

~~h~~i. A commitment to professional growth and development through reflection, collaboration, and continuous learning;

~~i~~j. The ability to analyze, evaluate, and apply, quantitative and qualitative research; and

k. ~~The~~ Understanding of the Virginia Standards of Learning for Computer Technology and the ability to use technology as a tool for teaching, learning, research, and communication.

2. Knowledge and skills.

a. Reading/English. Understanding of the content, knowledge, skills, and processes for teaching Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and the Virginia Standards of Learning for English including: ~~oral language~~ communication (speaking, listening, and media literacy) ~~(speaking and listening)~~, reading, writing, and ~~literature~~ research, and how these standards provide the core for teaching English in grades preK-6 (elementary licensure).

(1) Assessment and diagnostic teaching. The individual shall:

(a) Be proficient in the use of both formal and informal assessment ~~and~~ as screening diagnostic, and progress monitoring measures for the components of reading: phoneme awareness, letter recognition, decoding, fluency, vocabulary, reading level, and comprehension; and

(b) Be proficient in the ability to use diagnostic data to ~~tailor~~ inform instruction, for acceleration, intervention, remediation and ~~flexible skill-level groupings~~ differentiation.

(2) ~~Oral c~~ Communication. Speaking, Listening, Media Literacy. The individual shall:

(a) Be proficient in the knowledge, skills, and processes necessary for teaching communication (speaking, listening, and media literacy) ~~oral language (speaking and listening)~~;

(b) Be proficient in developing students' phonological awareness skills;

(c) Demonstrate the ability to teach students to identify the characteristics of, and apply critical thinking to media messages, and to facilitate their proficiency in using various forms of media to collaborate and communicate;

~~(c)~~(d) Demonstrate effective strategies for facilitating the learning of standard English by speakers of other languages and dialects; and

~~(d)~~(e) Demonstrate the ability to promote creative thinking and expression, as through storytelling, drama, choral/oral reading, etc.

(3) Reading/literature. The individual shall:

(a) Be proficient in explicit and systematic phonics instruction, including an understanding of sound/symbol relationships, syllables, phonemes, morphemes, word analysis and decoding skills~~, and word attack skills~~;

(b) Be proficient in strategies to increase vocabulary/concept development;

(c) Be proficient in the structure of the English language, including an understanding of syntax and semantics;

(d) Be proficient in reading comprehension strategies for both fiction and nonfiction text, including questioning, predicting, inferencing, summarizing, clarifying, evaluating, and ~~associating the unknown with what is known~~ making connections;

(e) Demonstrate the ability to support students to read with fluency, accuracy, and meaningful expression (prosody);

~~(e)~~(f) Demonstrate the ability to develop comprehension skills in all content areas;

~~(f)~~(g) Demonstrate the ability to foster appreciation of a variety of literature; ~~and~~

~~(g)~~(h) Understand the importance of promoting independent reading by selecting fiction and nonfiction ~~books~~ texts~~,~~ of ~~at~~ appropriate, yet engaging topics and reading levels~~.~~; and

(i) Demonstrate effective strategies for teaching students to view, interpret, analyze, and represent information and concepts in visual form with or without the spoken or written word.

(4) Writing. The individual shall:

(a) Be proficient in the knowledge, skills, and processes necessary for teaching writing, including the domains of composing and~~,~~ written expression, and usage and mechanics and the writing process of planning, drafting, revising, editing, and ~~sharing~~ publishing;

(b) Understand the stages of spelling development, promoting the generalization of spelling study to writing, and ~~(b) B~~be proficient in systematic spelling instruction, including awareness of the purpose and limitations of "invented spelling~~,~~" ~~orthographic patterns, and strategies for promoting generalization of spelling study to writing~~; ~~and~~

(c) Demonstrate the ability to teach students to write cohesively for a variety of purposes and to provide instruction on the writing process: planning, drafting, ~~revise~~ revising, editing, and ~~share~~ publishing in the narrative, descriptive, persuasive, and explanative modes~~.~~; and

(d) Demonstrate the ability to facilitate student research and related skills such as accessing information, evaluating the validity of sources, citing sources, and synthesizing information.

(5) Technology. The individual shall demonstrate the ability to guide students in their use of technology for both process and product as they work with reading, writing, and research.

b. Mathematics.

(1) Understanding of the mathematics relevant to the content identified in Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and the Virginia Standards of Learning and how the standards provide the foundation for teaching mathematics in grades preK-6. Experiences with practical applications and the use of appropriate technology and ~~manipulatives~~ concrete materials should be used within the following content:

(a) Number systems, their structure, basic operations, and properties;

(b) Elementary number theory, ratio, proportion and percent;

(c) Algebra: operations with monomials and polynomials; algebraic fractions; linear and quadratic equations and inequalities, linear systems of equations and inequalities; radicals and exponents; arithmetic and geometric sequences and series; algebraic and trigonometric functions; and transformations among graphical, tabular, and symbolic form of functions;

(d) Geometry: geometric figures, their properties, relationships, Pythagorean Theorem; deductive and inductive reasoning; perimeter, area, and surface area of two- and three-dimensional figures; coordinate and transformational geometry; and constructions;

(e) Probability and statistics: permutations and combinations; experimental and theoretical probability; prediction; graphical representations including box-and-whisker plots; measures of center ~~central tendency~~, range, and normal distribution; and

(f) Computer science: terminology, simple programming, and software applications.

(2) Understanding of the sequential and developmental nature of mathematics.

(3) Understanding of the multiple representations of mathematical concepts and procedures.

(4) Understanding of and the ability to use the five processes – reasoning mathematically, solving problems, communicating mathematics effectively, making mathematical connections, and using mathematical representations at different levels of complexity.

(5) Understanding of the contributions of different cultures toward the development of mathematics, and the role of mathematics in culture and society.

(6) Understanding of the role of technology and the ability to use calculators and computers in the teaching and learning of mathematics.

c. History and social sciences.

(1) Understanding of the knowledge, skills, and processes of history and the social sciences disciplines as defined in Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and the Virginia Standards of Learning and how the standards provide the necessary foundation for teaching history and social sciences, including in:

(a) History.

(i) The contributions of ancient civilizations to ~~American~~ modern social and political institutions;

(ii) Major events in Virginia history from 1607 to the present;

(iii) Key individuals, documents, and events in United States history; and

(iv) The evolution of America's constitutional republic, its ideas, institutions, and practices.

(b) Geography.

(i) The use of maps and other geographic representations, tools, and technologies to acquire, process, and report information;

(ii) The relationship between human activity and the physical environment in the community and the world; and

(iii) Physical processes that shape the surface of the earth~~;~~.

(c) Civics.

(i) The privileges and responsibilities of good citizenship and the importance of the Rule of Law for the protection of individual rights;

(ii) The process of making laws in the United States and the fundamental ideals and principles of a republican form of government;

(iii) The understanding that Americans are a people of diverse ethnic origins, customs, and traditions, who are united by basic principles of a republican form of government and a common identity as Americans; and

(iv) Local government and civics instruction specific to Virginia.

(d) Economics.

(i) The basic economic principles that underlie the United States market economy;

(ii) The role of the individual and how economic decisions are made in the market place; and

(iii) The role of government in the structure of the United States economy.

(2) Understanding of the nature of history and social sciences and how the study of the disciplines assists students in developing critical thinking skills in helping them to understand:

(a) The relationship between past and present;

(b) The use of primary sources such as artifacts, letters, photographs, and newspapers;

(c) How events in history are shaped both by the ideas and actions of people;

(d) Diverse cultures and shared humanity;

(e) Civic participation in a democracy; and

(f) The relationship between history, literature, art, and music.

d. Science.

(1) Understanding of the knowledge, skills, and processes of the four core science disciplines ~~earth, life, and physical sciences~~ as defined in Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds and the Virginia Science Standards of Learning and how these standards provide a sound foundation for teaching science in the elementary grades;

(2) Understanding of the nature of science and scientific inquiry, including the:

(a) Function of research design and experimentation;

~~(a)~~(b) ~~The r~~ Role and nature of the theory ~~science~~ in explaining and predicting events and phenomena; and

~~(b) The science skills of data analysis, measurement, observation, prediction, and experimentation.~~

(c) Practices required to provide empirical answers to research questions, including data collection and analysis, modeling, argumentation with evidence, and constructing explanations;

(d) Reliability of scientific knowledge and its constant scrutiny and refinement;

(e) Self-checking mechanisms used by science to increase objectivity, including peer review; and

(f) Assumptions, influencing conditions, and limits of empirical knowledge.

(3) Understanding of the knowledge, skills, and processes for an active elementary science program including the ability to:

(a) Design instruction reflecting the goals of the Virginia Science Standards of Learning;

(b) Implement classroom and laboratory safety rules/procedures, and ensure that students take appropriate safety precautions;

~~(b)~~(c) Conduct research projects and experiments, including applications of the design process and technology~~; in a safe environment~~;

(d) Conduct systematic field investigations using the school grounds, the community, and regional resources;

~~(c)~~(e) Organize key science content, skills and practices into meaningful units of instruction that actively engage students in learning;

(f) Design instruction to meet the needs of diverse learners using a variety of techniques;

~~(d) Adapt instruction to diverse learners using a variety of techniques;~~

~~(e)~~(g) Evaluate instructional materials, ~~instruction,~~ technologies, and ~~student achievement;~~ teaching practices;

(h) Conduct formative and summative assessments of student learning;

~~(f)~~(i) Incorporate instructional technology to enhance student performance in science~~.~~; and

(j.) Ensure student competence in science.

(4) Understanding of the content, processes~~,~~ and skills of the four science areas, including Earth science~~s~~, biology, chemistry, and physics supporting the teaching of ~~elementary school~~ preK-6 science as defined by the Virginia Science Standards of Learning and equivalent course work reflecting each of the~~se~~ four core science areas.

(5) Understanding of the core scientific disciplines of Earth science, biology, chemistry, and physics to ensure:

(a) The placement of the four core scientific disciplines in an appropriate interdisciplinary context;

~~(a)~~(b) The ability to teach the processes and ~~organizing~~ crosscutting concepts common to the natural and physical sciences; ~~and~~

(c) The application of key science principles to solve practical problems; and

(d) A ”systems” understanding of the natural world.

~~(b) Student achievement in science.~~

(6) Understanding of the contributions and significance of science including:

(a) Its social, ~~and~~ cultural, and economic significance;

(b) The relationship of science to mathematics, the design process, and technology; and

(c) The historical development of scientific concepts and scientific reasoning.

8VAC20-542-1~~2~~30. Middle education 6-8.

The program in middle education 6-8 with at least one area of academic preparation shall ensure that the candidate has demonstrated the following competencies:

1. Methods.

a. Understanding of the required knowledge, skills, and processes to support learners in achievement of the Virginia Standards of Learning for grades 6-8;

b. The use of appropriate methods, including direct instruction and inquiry-based instructional methods, to help learners develop knowledge and skills, sustain intellectual curiosity, and solve problems;

c. The ability to plan and teach collaboratively to facilitate interdisciplinary learning;

d. The use of differentiated instruction and flexible groupings to meet the needs of preadolescents at different stages of development, abilities, and achievement;

e. The ability to utilize effective classroom and behavior management skills through methods that shall build responsibility and self-discipline and maintain a positive learning environment;

f. The ability to modify and manage learning environments and experiences to meet the individual needs of preadolescents, including children with disabilities, gifted children, and children with limited proficiency in the English language;

g. The ability to use formal and informal assessments to diagnose needs, plan and modify instruction, and record student progress;

h. A commitment to professional growth and development through reflection, collaboration, and continuous learning;

i. The ability to analyze, evaluate, apply, and conduct quantitative and qualitative research;

j. The ability to use technology as a tool for teaching, learning, research, and communication;

k. An understanding of how to apply a variety of school organizational structures, schedules, groupings, and classroom formats appropriately for middle level learners;

l. Skill in promoting the development of all students' abilities for academic achievement and continued learning; and

m. The ability to use reading in the content area strategies appropriate to text and student needs.

2. English.

a. Possession of the skills necessary to teach the writing process, to differentiate among the forms of writing (narrative, descriptive, informational, and persuasive), and to use computers and other available technology;

b. Understanding of and knowledge in grammar, usage, and mechanics and its integration in writing;

c. Understanding and the nature and development of language and its impact on vocabulary development and spelling;

d. Understanding of and knowledge in techniques and strategies to enhance reading comprehension and fluency;

e. Understanding of and knowledge in the instruction of speaking, ~~and~~ listening, collaboration, and media literacy ~~note taking~~; ~~and~~

f. Knowledge of varied works from current and classic young adult literature appropriate for English instruction of fiction, nonfiction, and poetry~~.~~; and

g. Skills necessary to teach research techniques, including evaluating, organizing, crediting, and synthesizing information.

3. History and social sciences.

a. Understanding of the knowledge, skills, and processes of history and the social science disciplines as defined by the Virginia History and Social Sciences Standards of Learning and how the standards provide the foundation for teaching history and social sciences, including in:

(1) United States history.

(a) The evolution of the American constitutional republic and its ideas, institutions, and practices from the colonial period to the present; the American Revolution, including ideas and principles preserved in significant Virginia and United States historical documents as required by §22.1-201 of the Code of Virginia (Declaration of American Independence, the general principles of the Constitution of the United States, the Virginia Statute of Religious Freedom, the charters of April 10, 1606, May 23, 1609, and March 12, 1612, of The Virginia Company, and the Virginia Declaration of Rights), and historical challenges to the American political system (i.e., slavery, the Civil War, emancipation, and civil rights);

(b) The influence of religious traditions on the American heritage and on contemporary American society;

(c) The changing role of America around the world; the relationship between domestic affairs and foreign policy; global political and economic interactions;

(d) The influence of immigration on American political, social, and economic life;

(e) Origins, effects, aftermath and significance of the two world wars, the Korean and Vietnam conflicts, and the Post-Cold War Era;

(f) Social, political, and economic transformations in American life during the 20th century; and

(g) Tensions between liberty and equality, liberty and order, region and nation, individualism and the common welfare, and between cultural diversity and civic unity.

(2) World history.

(a) The political, philosophical, and cultural legacies of ancient, American, Asian, African, and European civilizations;

(b) Origins, ideas, and institutions of Judaism, Christianity, Hinduism, Confucianism and Taoism, and Shinto, Buddhist and Islamic religious traditions;

(c) Medieval society and institutions; relations with Islam; feudalism and the evolution of representative government;

(d) The social, political, and economic contributions of selected civilizations in Africa, Asia, Europe, and the Americas;

(e) The culture and ideas of the Renaissance and the Reformation, European exploration, and the origins of capitalism and colonization;

(f) The cultural ideas of the Enlightenment and the intellectual revolution of the 17th and 18th centuries;

(g) The sources, results, and influence of the American and French revolutions;

(h) The social consequences of the Industrial Revolution and its impact on politics and culture;

(i) The global influence of European ideologies of the 19th and 20th centuries (liberalism, republicanism, social democracy, Marxism, nationalism, Communism, Fascism, and Nazism); and

(j) The origins, effects, aftermath, and significance of the two world wars.

(3) Civics and economics.

(a) Essential characteristics of limited and unlimited governments;

(b) Importance of the Rule of Law for the protection of individual rights and the common good;

(c) Rights and responsibilities of American citizenship;

(d) Nature and purposes of constitutions and alternative ways of organizing constitutional governments;

(e) American political culture;

(f) Values and principles of the American constitutional republic;

(g) Structures, functions, and powers of local and state government;

(h) Importance of citizen participation in the political process in local and state government;

(i) Local government and civic instruction specific to Virginia;

(j) Structures, functions, and powers of the national government; and

(k) The structure and function of the United States market economy as compared with other economies.

b. Understanding of the nature of history and social sciences and how the study of these disciplines helps students go beyond critical thinking skills to help them appreciate:

(1) The significance of the past to their lives and to society;

(2) Diverse cultures and shared humanity;

(3) How things happen, how they change, and how human intervention matters;

(4) The interplay of change and continuity;

(5) Historical cause and effect;

(6) The importance of individuals who have made a difference in history and the significance of personal character to the future of society;

(7) The relationship among history, geography, civics, and economics; and

(8) The difference between fact and conjecture, evidence and assertion, and the importance of framing useful questions.

4. Mathematics.

a. Understanding of the knowledge and skills necessary to teach the Virginia Mathematics Standards of Learning and how curriculum may be organized to teach these standards to diverse learners;

b. Understanding of a core knowledge base of concepts and procedures within the discipline of mathematics, including the following strands: number and number sense; computation and estimation; geometry and measurement; statistics and probability; patterns, functions, and algebra;

c. Understanding of the mathematics relevant to the content identified in the Virginia Standards of Learning and how the standards provide the foundation for teaching mathematics in the middle grades. Experiences with practical applications and the

use of appropriate technology and manipulatives should be used within the following content:

(1) Number systems, their structure, basic operations, and properties;

(2) Elementary number theory, ratio, proportion, and percent;

(3) Algebra: fundamental idea of equality; operations with monomials and polynomials; algebraic fractions; linear and quadratic equations and inequalities, linear systems of equations and inequalities; radicals and exponents; arithmetic and geometric sequences and series; algebraic and trigonometric functions; and transformations among graphical, tabular, and symbolic form of functions;

(4) Geometry: geometric figures, their properties, relationships, Pythagorean-Theorem; deductive and inductive reasoning; perimeter, area, and surface area of two- and three-dimensional figures; coordinate and transformational geometry; and constructions;

(5) Probability and statistics: permutations and combinations; experimental and theoretical probability; data collection and graphical representations, including box-and-whisker plots; data analysis and interpretation for predictions; measures of center; spread of data, variability, range, standard deviation, and normal distributions.

~~c~~d. Understanding of the sequential nature of mathematics, the vertical progression of mathematical standards, and the mathematical structures inherent in the content strands;

~~d~~e. Understanding of and the ability to use the five processes - becoming mathematical problem solvers, reasoning mathematically, communicating mathematically, making mathematical connections, and representing, modeling and describing mathematical ideas, generalizations, and relationships using a variety of methods - at different levels of complexity;

~~e~~f. Understanding of the ~~history of mathematics, including the~~ contributions of various individuals and cultures toward the development of mathematics, and the role of mathematics in culture and society;

~~f~~g. Understanding of the major current curriculum studies and trends in mathematics;

~~g~~h. Understanding of the ~~role~~ appropriate use of calculators and technology and the ability to use graphing utilities ~~and computers~~ in the teaching and learning of mathematics, including virtual manipulatives;

~~h~~i. Understanding of and the ability to select, adapt, evaluate and use instructional materials and resources, including professional journals and technology;

~~i~~j. Understanding of and the ability to use strategies for managing, assessing, and monitoring student learning, including diagnosing student errors; and

~~j~~k. Understanding of and the ability to use strategies to teach mathematics to diverse adolescent learners.

5. Science.

a. Understanding of the knowledge, skills, and processes of the Earth, life, and physical sciences as defined in the Virginia Science Standards of Learning and how these provide a sound foundation for teaching science in the middle grades.

b. Understanding of the nature of science and scientific inquiry, including:

(1) Function of research design and experimentation;

(2) Role of science in explaining and predicting events and phenomena; and

(3) Science skills of data analysis, measurement, observation, prediction, and experimentation.

c. Understanding of the knowledge, skills, and processes for an active middle school science program, including the ability to:

(1) Design instruction reflecting the goals of the Virginia Science Standards of Learning;

(2) Conduct research projects and experiments;

(3) Implement safety rules/procedures and ensure that students take appropriate safety precautions;

(4) Organize key science content into meaningful units of instruction;

(5) Adapt instruction to diverse learners using a variety of techniques;

(6) Evaluate instructional materials, instruction, and student achievement; and

(7) Incorporate instructional technology to enhance student performance in science.

d. Understanding of the content, processes, and skills of the Earth sciences, biology, chemistry, and physics supporting the teaching of middle school science as defined

by the Virginia Science Standards of Learning and equivalent to academic course work in each of these core science areas.

e. Understanding of the core scientific disciplines to ensure:

(1) The placement of science in an appropriate interdisciplinary context;

(2) The ability to teach the processes and organize concepts common to the natural and physical sciences; and

(3) Student achievement in science.

f. Understanding of the contributions and significance of science to include:

(1) Its social and cultural significance;

(2) The relationship of science to technology; and

(3) The historical development of scientific concepts and scientific reasoning.

Article 3
PreK-12 Endorsements, Special Education, Secondary Grades 6-12 Endorsements, and Adult Education

8VAC20-542-13~~3~~40. Professional studies requirements for preK-12 endorsements, special education, secondary grades 6-12 endorsements, and adult education.

Professional studies requirements for preK-12 endorsements, special education, secondary grades 6-12 endorsements, and adult education:

1. Human ~~growth and~~ development and learning (birth through adolescence). Skills in this area shall contribute to an understanding of the physical, social, emotional, speech and language, and intellectual development of children and the ability to use this understanding in guiding learning experiences and relating meaningfully to students. The interaction of children with individual differences – economic, social, racial, ethnic, religious, physical, and mental – should be incorporated to include skills contributing to an understanding of developmental disabilities and developmental issues related to but not limited to low socio-economic status, attention deficit disorders, developmental disabilities, gifted education including the use of multiple criteria to identify gifted students, substance abuse, child abuse, and family disruptions.

2. Curriculum and instruction~~al procedures~~. Skills in this area shall contribute to an understanding of the principles of learning; the application of skills in discipline-specific methodology; effective communication with and among students ~~processes~~;

selection and use of materials, including media and ~~computers~~ contemporary technologies; selection, development and use of appropriate curricula, methodologies, and materials that support and enhance student learning and reflect the research on unique, age-appropriate, and culturally relevant curriculum and pedagogy. ~~evaluation of pupil performance; and the relationships among assessment, instruction, and monitoring student progress to include student performance measures in grading practices, the ability to construct and interpret valid assessments using a variety of formats in order to measure student attainment of essential skills in a standards-based environment, and the ability to analyze assessment data to make decisions about how to improve instruction and student performance. Teaching methods~~ Understanding of the principles of online learning and online instructional strategies and the application of skills to deliver online instruction must be included. Instructional practices that are sensitive to culturally and linguistically diverse learners, including ~~appropriate for~~ limited English proficient students; ~~exceptional students, including~~ gifted and talented students and those students with ~~disabling conditions~~ disabilities; and appropriate for the level of endorsement sought shall be included. Teaching methods shall be tailored to promote student academic progress and effective preparation for the Standards of Learning assessments. Methods of improving communication between schools and families and ways of increasing family involvement in student learning at home and in school and the Virginia Standards of Learning shall be included. Demonstrated proficiency in the use of educational technology for instruction shall be included. Persons seeking initial licensure as teachers and persons seeking licensure renewal as teachers for the first time shall complete study in child abuse recognition and intervention in accordance with curriculum guidelines developed by the Virginia Board of Education in consultation with the Virginia Department of Social Services that are relevant to the specific teacher licensure routes. Curriculum and instruction~~al procedures~~ for secondary grades 6-12 endorsements shall include middle and secondary education. Pre-student teaching experiences (field experiences) should be evident within these skills. For preK-12, field experiences shall be at the elementary, middle, and secondary levels.

3. Assessment of and for learning. Skills in this area shall be designed to develop an understanding and application of creating, selecting, and implementing valid and reliable classroom-based assessments of student learning, including formative and summative assessments. Assessments designed and adapted to meet the needs of diverse learners must be addressed. Analytical skills necessary to inform ongoing planning and instruction, as well as to understand, and help students understand their own progress and growth must be included. Skills also include the relationships among assessment, instruction, and monitoring student progress to include student performance measures in grading practices, the ability to interpret valid assessments using a variety of formats in order to measure student attainment of essential skills in a standards-based environment, and the ability to analyze assessment data to make decisions about how to improve instruction and student performance. Understanding of state assessment programs and accountability systems, including assessments used for student achievement goal setting as related to teacher evaluation and determining student academic progress, including knowledge of legal and ethical aspects of

assessment. Skills include developing familiarity with assessments used in preK-12 education (e.g., diagnostic, college admission exams, industry certifications, placement assessments).

4. ~~Foundations of education.~~ The teaching profession. Skills in this area shall be designed to develop an understanding of the historical, philosophical, and sociological foundations underlying the role, development and organization of public education in the United States. Attention must be given to the legal status of teachers and students, including federal and state laws and regulations, school as an organization/culture, and contemporary issues and current trends in education, including the impact of technology on education. Local, state, and federal governance of schools, including the roles of teachers and schools in communities must be included. Professionalism and ethical standards, as well as personal integrity must be addressed. Knowledge and understanding of Virginia's *Guidelines for Uniform Performance Standards and Evaluation Criteria for Teachers* must be included. ~~The historical, philosophical, and sociological foundations of the instructional design based on assessment data (the relationships among assessment, instruction, and monitoring student progress to include student performance measures in grading practices, the ability to construct and interpret valid assessments using a variety of formats in order to measure student attainment of essential skills in a standards-based environment, and the ability to analyze assessment data to make decisions about how to improve instruction and student performance) must be addressed.~~

5. Classroom and behavior management. Skills in this area shall contribute to an understanding and application of research-based classroom and behavior management techniques, classroom community building, positive behavior supports, and individual interventions, including techniques that promote emotional well-being and teach and maintain behavioral conduct and skills consistent with norms, standards, and rules of the educational environment. This area shall address diverse approaches based upon behavioral, cognitive, affective, social and ecological theory and practice. Approaches should support professionally appropriate practices that promote positive redirection of behavior, development of social skills, and of self-discipline. Knowledge and an understanding of various school crisis management and safety plans and the ability to create a safe, orderly classroom environment must be included. The link between classroom management and the students' ages must be understood and demonstrated in techniques used in the classroom.

6. Reading.

   a. Adult education, preK-12, and secondary grades 6-12 - ~~reading~~ literacy in the content areas. Skills in this area shall be designed to impart an understanding of vocabulary development and comprehension skills in English, mathematics, science, history and social sciences and ~~all~~ other content areas~~,~~. Strategies include~~ing~~ ~~a repertoire~~ teaching students how to ask effective ~~of~~ questions~~ing~~ ~~strategies~~, summarize~~ing~~ and retell~~ing skills~~ both verbally and in writing, and listen effectively.~~, and~~ Teaching strategies include ~~in~~ literal, interpretive, critical, and

evaluative comprehension, as well as the ability to foster appreciation of a variety of l~~iterature~~ fiction and nonfiction text and independent reading for adolescent learners.

b. Special education - ~~L~~language acquisition and reading and writing. Skills listed for these endorsement areas represent the minimum competencies that a beginning teacher must be able to demonstrate. These skills are not intended to limit the scope of a beginning teacher's program. Additional knowledge and skills that add to a beginning teacher's competencies to deliver instruction and improve student achievement should be included as part of a quality learning experience.

(1) Language acquisition: Skills in this area shall be designed to impart a thorough understanding of the Virginia English Standards of Learning as well as the complex nature of language acquisition ~~and reading~~ as a precursor to literacy~~,~~. Language acquisition shall follow the typical development of linguistic competence in the areas of phonetics, semantics, syntax, morphology, phonology, and pragmatics. ~~to include phonemic awareness, concept of print, phonics, fluency, vocabulary development, and comprehension strategies. Additional skills shall include proficiency, in writing strategies, as well as the ability to foster appreciation of a variety of literature and independent reading.~~

(2) Reading and writing: Skills in this area shall be designed to impart a thorough understanding of the Virginia English Standards of Learning as well as the reciprocal nature of reading and writing. Reading shall include phonemic awareness, concept of print, phonics, fluency, vocabulary development, and comprehension strategies. Writing shall include writing strategies, and conventions as supporting the composing/writen expression and usage/mechanics domains. Additional skills shall include proficiency in understanding the stages of spelling development, the writing process as well as the ability to foster appreciation of a variety of fiction and nonfiction text and independent reading.

~~6~~7. Supervised ~~classroom~~ clinical experiences. ~~The student teaching experience should provide for the prospective teacher to be in classrooms full time for a minimum of 300 clock hours (including pre- and post-clinical experiences) with at least 150 clock hours spent supervised in direct teaching activities (providing direct instruction) in the endorsement area sought.~~ The ~~student teaching~~ supervised clinical experiences shall be continuous and systematic and comprised of early field experiences with a minimum of 10 weeks of full-time student teaching under the supervision of a cooperating teacher with demonstrated effectiveness in the classroom. The summative supervised student teaching experience shall include at least 150 clock hours spent in direct teaching at the level of endorsement.

If a preK-12 endorsement is sought, teaching activities shall be at the elementary and middle or secondary levels. Individuals seeking the endorsement in library media shall complete the supervised ~~experience~~ school library media practicum in a school

library media setting. Individuals seeking an endorsement in an area of special education shall complete the supervised ~~classroom~~ student teaching experience requirement in the area of special education for which the endorsement is sought. One year of successful full-time teaching experience in the endorsement area in any public school or accredited nonpublic school may be accepted in lieu of the supervised student teaching experience. A fully licensed, experienced teacher shall be available in the school building to assist a beginning teacher employed through the alternate route.

8VAC20-542-14~~5~~0. Adult education.

The program in adult education shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the nature or psychology of the adult learner or adult development;

2. Understanding of the knowledge, skills, and processes needed for the selection, evaluation, and instructional applications of the methods and materials for adult basic skills including:

   a. Curriculum development in adult basic education or GED instruction;

   b. Beginning reading for adults;

   c. Beginning mathematics for adults;

   d. Reading comprehension for adult education;

   e. Foundations of adult education; and

   f. Other adult basic skills instruction.

3. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing; ~~and~~

4. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes; and

~~4~~5. One semester of supervised successful full-time (or an equivalent number of hours of part-time experience) teaching of adults.

8VAC20-542-1~~5~~60. Adult English as a second language (add-on endorsement).

The program in adult English as a second language shall ensure that the candidate has demonstrated the following competencies:

1. Knowledge in the growth and development of the adult learner;

2. Knowledge of teaching methods and materials in adult English as a second language;

3. Knowledge in adult language acquisition;

4. Knowledge of assessment methods in adult English as a second language instruction;

5. Skills in teaching the adult learner;

6. Understanding of the effects of socio-cultural variables in the instructional setting;

7. Skills in teaching a variety of adult learning styles;

8. Proficiency in cross-cultural communication;

9. Proficiency in speaking, listening, and reading; ~~and~~

10. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~; and

11. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-1~~6~~70. Career and technical education – agricultural education.

The program in agricultural education shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the importance and relationship of and contribution to the agricultural industry ~~agriculture~~ to ~~the economy of~~ the community, ~~the~~ state, nation ~~and the nation~~, and global economy including:

   a. ~~An awareness and appreciation for~~ Knowledge of the fundamental historical foundation of the state and national agricultural industry ~~agriculture~~;

   b. Knowledge of ~~the~~ contemporary components of the U.S. food and fiber system; and

   ~~b~~c. Knowledge of the career ~~occupational~~ opportunities in agriculture and related fields~~;~~.

   ~~c. Knowledge of the U.S. food and fiber system; and~~

~~d. Knowledge of the contributions of agriculture to the economy of the state and nation.~~

2. ~~Understanding of the~~ Applying the knowledge, skills, and processes involved in plant and soil sciences, including:

   a. Production, use, and marketing of row crops, specialty crops, forage crops, fruits, small grains, vegetables, and cereal crops; and

   b. Soil and water management.

3. ~~Understanding of~~ Applying the knowledge, skills, and processes involved in the production, management, and marketing of animals, including:

   a. Production of cattle, swine, poultry, dairy cows, sheep, aquaculture species, goats, and horses; and

   b. Care and management of horses and small companion animals.

4. ~~Understanding of the~~ Applying knowledge, skills, and processes involved in agricultural mechanics~~,~~ and technology, including:

   a. Set up ~~S~~safe operation, repair, and maintenance of equipment, tools, and measuring devices ~~machinery~~ used in agriculture;

   ~~b. Setting up and adjusting agriculture machinery;~~

   ~~c. Basic knowledge of a set of hand tools, measuring devices, and testing equipment used in agriculture;~~

   ~~d~~b. ~~Basic k~~Knowledge of energy transfer systems used in agriculture; and

   ~~e~~c. Knowledge of p~~P~~roperties of metals used in tools and equipment~~.~~; and

   d. Knowledge of alternative energy sources, fuels, and lubricants from agricultural and natural resources.

5. Understanding of agricultural economics, including the various markets, international trade, government policies, and the operation and management of various agricultural businesses.

6. ~~Understanding of the~~ Applying the knowledge, skills, and processes involved in natural resources, including:

   a. Care, management, and conservation of soil, air, water, energy, and wildlife; and

b. Production and management of the forest.

7. Understanding the relationship of agriculture to ~~the importance and processes necessary for~~ community resource and partnership development, including:

   a. ~~Fundamentals of the community development process~~ Local agricultural program advisory committees;

   b. Adult education programs;

   c. Agricultural enterprises;

   d. Student work-based learning opportunities;

   ~~b~~e. ~~Knowledge of p~~ Public and private programs and resources ~~available~~; and

   ~~c. Knowledge of the promotion of community development; and~~

   ~~d~~f. ~~Knowledge of c~~ Civic organizations ~~and their purposes~~.

8. Implementing classroom management techniques and pedagogical k~~K~~nowledge necessary ~~of and the ability~~ to ~~teach~~:

   a. ~~How~~ Understand the ~~relationship of~~ biological, physical, chemical, and applied sciences ~~relate~~ to practical solutions of agricultural problems;

   ~~c~~b. Teach ~~A~~ agricultural competencies needed by secondary students to be successful in continuing their education and entering a related career pathway; ~~occupation.~~

   ~~b~~c. Develop effective l~~L~~eadership ~~development~~ skills through the FFA student organization as an integral part of instruction; and

   ~~e~~d. Apply knowledge and skills for the administration of the agricultural program, including managing budgets, maintaining student performance records and equipment inventories.

~~9. Knowledge and skills necessary to teach leadership skills, organize and manage an effective co-curricular student organization (FFA) and implement the organization's activities as an integral part of instruction.~~

~~10~~9. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

10. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

11. Understanding of and proficiency in the use of instructional technolog~~y~~ies ~~and microcomputer applications~~.

12. Demonstrate and integrate workplace readiness skills in the classroom and real-world activities.

13. Ability to plan, deliver, and manage work-based learning methods of instruction such as internship, job shadowing, cooperative education, mentorship, service learning, clinical, and youth apprenticeship.

8VAC20-542-1~~7~~80. Career and technical education – business and information technology.

The program in business and information technology shall ensure that the candidate has demonstrated the following competencies:

1. Knowledge, skills, and principles of manual and automated accounting, including:

   a. Accounting concepts, terminology, and applications;

   b. Accounting systems; and

   c. The basic accounting cycle of source documents, verifications, analyzing, recording, posting, trial balances, and preparing financial statements~~.~~; and

   d. Use of accounting computer software to automate accounting tasks.

2. Knowledge and skills in economics ~~necessary to~~, including:

   a. ~~Communicate b~~Basic economic ~~principles as applied to the American economic system; and~~ concepts and structures;

   b. The role of producers and consumers in a market economy;

   ~~b. Apply basic economic principles to consumerism.~~

   c. The price system;

   d. The many factors that may affect income;

   e. A nation's economic goals, including full employment, stable prices, and economic growth;

   f. The nation's finance system;

   g. How monetary and fiscal policy influence employment, output, and prices;

h. The role of government in a market economy;

i. The global economy; and

j. Distinguishing between trade deficit and trade surplus.

3. Knowledge and skills in the foundations of business selected from the following areas:

a. Business law.

(1) Ability to recognize the legal requirements affecting business organization; and

(2) Ability to apply legal principles to business situations.

b. Business principles.

(1) Ability to identify, explain, and apply contemporary business principles;

(2) Ability to identify and explain the advantages and disadvantages of various business organizational structures; and

(3) Knowledgeable in the foundations of international business, the global business environment, international business communications, and global business ethics.

c. Management. Understanding and analyzing of basic management functions, tools, theories, and leadership styles to explore and solve problems in business organizations, economics, international business, and human relations issues.

d. Marketing and entrepreneurship.

(1) Understanding of basic marketing concepts in sales techniques, advertising, display, buying, wholesale/retail, distribution, service occupations, market analysis, warehousing, and inventory control; and

(2) Understanding of the unique characteristics of an entrepreneur and the knowledge and skills necessary for an entrepreneurial venture.

e. Finance.

(1) Knowledgeable about and skilled in the areas of ~~money management, recordkeeping, and banking~~ managing personal finance and budgeting, saving and investing, buying goods and services, banking and financial institutions, earning and reporting income needed for sound financial decision making; and

(2) Understanding of the basic concepts of economics, insurance, credit, consumer skills, and other related topics.

4. Knowledge and skills in all of the following communications and information technologies:

a. Communications.

(1) Ability to communicate in a clear, courteous, concise, and correct manner for personal and professional purposes through the foundations of listening, writing, reading, speaking, nonverbal cues, and following written/oral directions;

(2) Ability to use information systems and technology to expedite and enhance the effectiveness of communications and telecommunications; and

(3) Ability to gather, evaluate, use, and cite information from information technology sources.

b. Impact of technology on society and the individual (digital citizenship). Knowledge to assess the impact of information technology on society.

c. Computer architecture. Ability to describe current and emerging computer architecture; configure, install, and upgrade hardware; and diagnose and repair hardware problems.

d. Operating systems, environments, and utilities. Ability to identify, evaluate, select, install, use, upgrade, customize, and diagnose and solve problems with various types of operating systems, environments, and utilities.

e. Application software (e.g., word processing, database, spreadsheet, graphics, Web design, desktop/presentation/multimedia and imaging, and emerging technologies).

(1) Ability to identify, evaluate, select, install, use, upgrade, and customize application software; and

(2) Ability to diagnose and solve problems resulting from an application software's installation and use.

f. Input technologies. Ability to use input devices and technologies (e.g., touch keyboarding, *speech recognition, handwriting recognition, ~~personal digital assistants (PDAs) and other~~ hand-held devices, touch screen or mouse, scanning, and other emerging input technologies) to enter, manipulate, and format text and data. ~~*Touch keyboarding is required.~~

g. Database management systems. Ability to use, plan, develop, and maintain database management systems. Ability to diagnose and solve problems using database management systems.

h. Programming and application development. Ability to help students design, develop, test, and implement multi-platform (e.g., mobile, different operating systems) programs that solve business problems.

i. Networking and communications infrastructures.

(1) Facilitate students' development in the skills to design, deploy, and administer networks and communications systems; ~~and~~

(2) Facilitate students' ability to use, evaluate, and deploy communications and networking applications~~.~~; and

(3) Facilitate students' ability to analyze networks for security vulnerabilities and develop and deploy appropriate security plans and applications.

j. Information management.

(1) Ability to plan the selection and acquisition of information technologies (hardware and software);

(2) Ability to instruct students in the development of technical and interpersonal skills and knowledge to support the user community; and

(3) Ability to describe, analyze, develop, and follow policies for managing privacy and ethical issues in organizations and in a technology-based society.

k. Web development and multimedia;

(1) Ability to instruct students in the design and development of Web applications based on industry standards and principles of good design;

(2) Ability to instruct students in the design and development of multimedia applications; and

(3) Ability to design and develop multimedia and Web-based applications for multiple operating systems and environments (mobile, desktop, cloud).

l. Project management.

(1) Understand the components of project management and its importance to business and information technology.

(2) Use project management tools to coordinate information technology, business, or related projects and manage teamwork.

~~5. Career development.~~

~~a. Experience in a supervised career in business and information technology through cooperative education, internship, shadowing, mentorship, and/or work experience; and~~

~~b. Ability to provide instruction in self-awareness as it relates to career exploration and development, career research, workplace expectation, and career planning.~~

~~6~~5. Knowledge and skills necessary to teach leadership skills, organize and manage an effective co-curricular student organization and implement the organization's activities as an integral part of instruction.

~~7~~6. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

7. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8. Knowledge and skills necessary to apply basic mathematical operations to solve business problems.

9. Demonstration and integration of workplace readiness skills in the classroom and real-world activities.

10. Ability to plan, deliver, evaluate, and manage work-based learning methods of instruction such as internship, job shadowing, cooperative education, mentorship, service learning, clinical, and youth apprenticeship.

8VAC20-542-18~~9~~0. Career and technical education – family and consumer sciences.

The program in family and consumer sciences shall ensure that the candidate has demonstrated the following competencies:

1. Knowledge of the human growth and developmental processes ~~of~~ throughout the lifespan, including infancy, childhood, preadolescence, adolescence, and adulthood/aging and in creating and maintaining an environment in which family members develop and interact as individuals and as members of a group;

2. Knowledge of the decision-making processes related to housing, furnishings, and equipment for individuals and families with attention given to special needs and the diversity of individuals;

3. The ability to plan, purchase, and prepare food choices that promote nutrition and wellness and safety and sanitation;

4. Knowledge of the management of resources to achieve individual and family goals at different stages of the life span and the family life cycle;

5. Knowledge of the sociological, psychological, and physiological aspects of ~~clothing~~ apparel and textiles for individuals and families;

6. Knowledge of the management of families, community, work, and their interrelationships;

7. Knowledge of occupational skill development and career planning;

8. Knowledge of the use of critical science and creative skills to address problems in diverse family, community, and work environments;

9. Knowledge and skills necessary to teach leadership, communication, interpersonal problem-solving, and ethical decision-making skills~~, organize and manage an effective co-curricular student organization and implement the organization's activities as an integral part of instruction~~;

10. The ability to plan, develop, teach, supervise, and evaluate programs in occupational programs at the secondary, postsecondary, and adult levels;

11. The ability to organize and implement Family, Career, and Community Leaders of America (FCCLA) programs as an integral part of classroom instruction; and

12. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~;

13. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes;

14. Demonstrate and integrate workplace readiness skills in the classroom and real-world activities; and

15. Ability to plan, deliver, and manage work-based learning methods of instruction such as internship, job shadowing, cooperative education, mentorship, service learning, clinical, and youth apprenticeship.

8VAC20-542-~~19~~200. Career and technical education – health and medical sciences.

The program in health and medical sciences shall ensure that the candidate has demonstrated the following competencies:

1. Knowledge of teaching methods.

   a. Instructional planning – ability to determine the needs and interests of students;

   b. Organizing instruction – ability to prepare teacher-made instructional materials for clinical laboratory experience;

   c. Instructional execution – ability to use techniques for simulating patient care and demonstrating manipulative skills;

   d. Application of technology in the classroom; and

   e. Instructional evaluation – ability to determine grades for students in classroom and clinical settings.

2. Knowledge of program management.

   a. Planning – ability to organize an occupational advisory committee;

   b. Curriculum development – ability to keep informed of current curriculum content and patient care practices;

   c. Planning and organizing teaching/occupational laboratory for laboratory simulations/demonstrations;

   d. Understanding of the process for issuing credentials for health workers;

   e. Understanding of the health care industry; and

   f. Evaluation – ability to conduct a student follow-up study.

3. Knowledge and skills necessary to teach leadership skills, organize and manage an effective co-curricular student organization and implement the organization's activities as an integral part of instruction.

4. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

5. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

6. Demonstrate and integrate workplace readiness skills in the classroom and real-world activities.

7. Ability to plan, deliver, evaluate, and manage work-based learning methods of instruction such as internship, job shadowing, cooperative education, mentorship, service learning, clinical, and youth apprenticeship.

~~8VAC20-542-200. Career and technical education industrial cooperative training (add-on endorsement).~~

~~The program in industrial cooperative training (ICT) shall ensure that the candidate has demonstrated the following competencies:~~

~~1. Understanding of industrial education and its role in the development of technically competent, socially responsible, and culturally sensitive individuals with potential for leadership in skilled technical work and professional studies;~~

~~2. Understanding of and the ability to relate experiences designed to develop skills in the interpretation and implementation of industrial education philosophy in accordance with changing demand;~~

~~3. The knowledge and experience of systematically planning, executing, and evaluating individual and group instruction;~~

~~4. Understanding of the competencies necessary for effective organization and management of laboratory instruction;~~

~~5. Understanding of the competencies necessary for making physical, social, and emotional adjustments in multicultural student-teacher relationships;~~

~~6. Understanding of the competencies necessary for developing and utilizing systematic methods and instruments for appraising and recording student progress in the vocational Career and Technical Education classroom;~~

~~7. Understanding of the ability to provide technical work experience through cooperative education or provide a method of evaluating previous occupational experience commensurate with the minimum required standard;~~

~~8. Understanding of the competencies necessary to assist students in job placement and in bridging the gap between education and work;~~

~~9. Understanding of the awareness of the human relations factor in industry with emphasis on the area of cooperation among labor, management, and the schools;~~

~~10. Understanding of the teacher's role in the school and community;~~

~~11. Understanding of the content, skills, and techniques necessary to teach a particular trade area;~~

~~12. Understanding of the competencies necessary to organize and manage an effective student organization;~~ and

~~13. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.~~

8VAC20-542-210. Career and technical education - marketing education.

The program in marketing ~~education~~ shall ensure that the candidate has demonstrated the following competencies:

1. Knowledge of marketing~~, merchandising, marketing mathematics, communication theory and techniques, advertising and sales promotion, personal selling, and management~~ processes and the environment; management and supervision; economics; merchandising and operations; advertising and promotion; sales/selling; communication theory and techniques; consumer behavior; international (global) marketing; finance; accounting or marketing mathematics; and technology applications through a variety of educational and work experiences;

2. Knowledge of skills and principles common across the marketing pathways: channel management; marketing-information management; market planning; pricing; product/service management promotion; and selling;

~~2~~3. ~~Knowledge of~~ Ability to plan~~ning~~, develop~~ing~~, and administer~~ing~~ a comprehensive marketing program ~~of marketing education~~ for high school students and adults;

~~3~~4. ~~Knowledge of~~ Ability to organize~~ing~~ and use~~ing~~ a variety of instructional methods and techniques for teaching youths and adults;

~~4~~5. ~~Knowledge of~~ Ability to conduct~~ing~~ learning programs that include a variety of career objectives and recognize and respond to individual differences in students;

~~5~~6. ~~Knowledge of~~ Ability to assist~~ing~~ learners of different abilities in developing skills needed to qualify for further education and employment;

~~6~~7. Knowledge of occupational skill development and career planning for ~~acquiring knowledge of career requirements and~~ opportunities in marketing, merchandising, hospitality, and management;

~~7~~8. Knowledge and skills necessary to teach leadership skills, organize and manage an effective co-curricular student organization (DECA) and implement the organization's activities as an integral part of instruction;

~~8~~9. ~~Understanding~~ Application of and proficiency in grammar, usage, and mechanics and their integration in writing; and

10. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes;

~~9~~11. ~~Knowledge of utilizing~~ Application of and proficiency in instructional technology and current technological applications as these relate to marketing functions~~.~~;

12. Demonstration and integration of workplace readiness skills in the classroom and real-world activities;

13. Ability to plan, deliver, and manage work-based learning methods of instruction, such as: internship, job shadowing, cooperative education, mentorship, service learning, clinical, and youth apprenticeship; and

14. Ability to apply mathematical operations to solve marketing problems.

8VAC20-542-220. Career and technical education - technology education.

The program in technology education shall ensure that the candidate has demonstrated the following competencies:

1. Understanding ~~and utilization of technology, including the human activities of~~ the nature of technology, including knowledge of the:

   a. ~~Designing and developing technological systems~~ Characteristics and scope of technology;

   b. ~~Determining and controlling the behavior of technological systems~~ Core concepts of physical, biological, and informational technologies; and

   c. ~~Utilizing technological systems; and~~ Relationships among technologies, including the natural intersects between the science, technology, engineering, and mathematics (STEM) and other fields.

   ~~d. Assessing the impacts and consequences of technological systems.~~

2. Understanding ~~of technological knowledge~~ the relationships between technology and society, including the:

   a. ~~The nature and evolution of technology~~ Sociocultural, political, and economic influences of technology;

b. ~~Technological concepts and principles~~ Local and global effects of technological products and systems on the environment; and

c. ~~Technological resources, impacts, consequences, and linkages with other fields.~~ Role that society plays in the use and development of technology; and

d. Influence of technology on human history.

3. ~~Understanding and utilization of the major systems of technology~~ Comprehension and utilization of engineering design, including the:

a. ~~Synthesis of the processes for creating, encoding, transmitting, receiving, decoding, storage, and retrieval of information using communication systems in a global information society~~ Attributes of technological design;

b. ~~Application of the principles and processes characteristic of contemporary and future production systems, including the research, engineering design and testing, planning, organization, resources, and distribution~~ Role of constraints, optimization, and predictive analysis in engineering design; and

c. ~~Integration and organization of transportation systems, including land, sea, air, and space as a means of transporting people, goods, and services in a global economy.~~ Requirement of problem-solving, critical thinking, and technical writing skills; and

d. Intentional integration of mathematics and science concepts and practices.

4. ~~Understanding and utilization of the knowledge, skills, and processes for teaching in a laboratory environment~~ Ability to succeed in a technological world, including a capacity to:

a. ~~Laboratory safety rules, regulations, processes and procedures~~ Employ the design process in the engineering of technological products and systems;

b~~. Ability to organize technological content into effective instructional units~~ Determine and control the behavior of technological products and systems;

c. ~~Ability to deliver instruction to diverse learners~~ Use and maintain technological products and systems; and

d. ~~Ability to evaluate student achievement, curriculum materials and instructional processes;~~ Assess the impacts and consequences of technological products and systems.

~~e. Ability to incorporate new and emerging instructional technologies to enhance student performance;~~ and

f~~. Understanding the concepts and procedures for developing a learner's technological literacy.~~

5. Ability to select and use the major physical, biological, and informational technologies of the designed world, including the:

   a. Principles and processes characteristic of contemporary and emerging transportation, manufacturing, and construction technologies, inclusive of research, engineering design and testing, planning, organization, resources, and modes of distribution;

   b. Range of enabling technologies that utilize fundamental biological principles and cellular processes characteristic of traditional and modern biotechnical technologies, inclusive of research, design-based engineering and testing of agricultural products, biotechnical systems and associated medical technologies~~.~~;

   c. Purpose, processes, and resources involved with creating, encoding, transmitting, receiving, decoding, storage, retrieval, and understanding of information data using communication systems in a global information society; and

   d. Concept, laws, forms, and characteristics of energy as a fundamental requirement of the technological world, inclusive of the resultant power and work requisites, both renewable and non-renewable, of the tools, machines, products, and systems within.

6. Knowledge, skills, and processes required for teaching in a science, technology, engineering, and mathematics (STEM) laboratory environment, including:

   a. Laboratory safety rules, regulations, processes and procedures;

   b. Ability to organize content and practices into effective instructional units;

   c. Ability to deliver instruction to diverse learners;

   d. Ability to evaluate student achievement, curriculum materials, instructional strategies, and teaching practices;

   e. Ability to incorporate new and emerging instructional technologies to enhance student performance across the varied domains of knowledge – cognitive, affective, and psychomotor; and

   f. Ability to convey the concepts and procedures for developing a learner’s technological literacy specifically, and integrative STEM literacy in general.

~~5~~7. ~~Knowledge and skills~~ Demonstration of the knowledge, abilities, and capacity necessary to teach leadership skills, organize and manage an effective co-curricular student organization and implement the organization's activities as an integral part of instruction;

~~6~~8. Understanding of and proficiency in grammar, usage, and mechanics and their integration in formal technical writing~~.~~;

9. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes;

10. Demonstrate and integrate workplace readiness skills in the classroom and real-world activities; and

11. Ability to plan, deliver, evaluate, and manage work-based learning methods of instruction such as internship, job shadowing, cooperative education, mentorship, service learning, clinical, and youth apprenticeship.

8VAC20-542-230. Career and technical education - trade and industrial education.

The program in trade and industrial education shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of industrial education and its role in the development of technically competent, socially responsible, and culturally sensitive individuals with potential for leadership in skilled technical work and/or professional studies;

2. Understanding of and the ability to relate experiences designed to develop skills in the interpretation and implementation of industrial education philosophy in accordance with changing demand;

3. The knowledge and experience of systematically planning, executing, and evaluating individual and group instruction;

4. Knowledge of the competencies necessary for effective organization and management of laboratory instruction;

5. Knowledge of the competencies necessary for making physical, social, and emotional adjustments in multicultural student-teacher relationships;

6. Knowledge of the competencies necessary for developing and utilizing systematic methods and instruments for appraising and recording student progress in the ~~vocational~~ career and technical educational classroom;

7. Knowledge of the ability to provide technical work experience through cooperative education or provide a method of evaluating previous occupational experience commensurate with the minimum required standard;

8. Knowledge of the competencies and industry credentials necessary to assist students in job placement and in otherwise bridging the gap between education and work;

9. Understanding of the awareness of the human relations factor in industry, with emphasis on the area of cooperation among labor, management, and the schools;

10. Knowledge of the teacher's role in the school and community;

11. Understanding of the content, skills, and techniques necessary to teach a particular trade area;

12. Knowledge of the competencies necessary to organize and manage an effective student organization; and

13. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~;

14. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes;

15. Demonstration and integration of work place readiness skills in the classroom and real-world activities~~.~~; and

16. Understanding of the planning, delivery, and management of work-based learning methods of instruction such as internship, job shadowing, cooperative education, mentorship, service learning, clinical, and youth apprenticeship.

8VAC20-542-240. Career and technical education - ~~vocational~~ transition/special needs (add-on endorsement).

The ~~program in vocational~~ transition/special needs (add-on endorsement) shall ensure that the candidate has demonstrated the following competencies:

1. ~~Understanding~~ Knowledge of ~~vocational~~ special needs and transition programs and services~~;~~, characteristics of students who are disadvantaged, disabled, ~~and~~ gifted~~;~~ , and individuals with ~~other~~ barriers to educational achievement and employment, including individuals with limited English proficiency~~;~~. ~~and~~

2. Knowledge of program development, implementation, and evaluation.

3. Basic understanding of cultural issues pertaining to employment and postsecondary education/training.

4. Understanding of the federal and state laws and regulations pertaining to special education, rehabilitation, and the American with Disabilities Act.

~~2~~5. Understanding and demonstration of the integration of instructional methods, ~~and~~ resources, ~~in career-vocational, community-based,~~ and transition programs for targeted populations in career and technical education, including:

a. Use of learning and teaching styles to plan and deliver differentiated instruction and differentiated assessment;

b. Knowledge of age appropriate assessments;

~~b~~c. Use of ~~vocational~~ assessment results to plan individual instruction strategies and assist with long-range and short-term planning;

d. Understanding of required skills that demonstrate college and career readiness;

~~c~~e. Ability to plan and manage a competency-based education system;

~~d~~f. Ability to adapt/modify curriculum materials and utilize Universal Design for Learning Principles to meet special student needs;

~~e~~g. Use of a variety of classroom and behavior management techniques to develop an enhanced learning environment, behavior change techniques, individual and group instruction;

~~f~~h. Use of different processes to improve collaboration and develop partnerships with colleagues, parents, and the community, to include service agencies and businesses; and

~~g~~i. Ability to plan learning experiences that prepare individuals for transition to more advanced education and career development options.

3. ~~Understanding of the~~ Ability to develop, plan~~ning~~, deliver~~y~~, and manage~~ment of~~ work-based ~~education programs such as community surveying, cooperative education, simulation, directed observation, shadowing, mentoring, and internship.~~ learning methods of instruction such as community-based instruction, internship, job shadowing, cooperative education, mentorship, service learning, clinical, and youth apprenticeship.

4. Understanding and application of strategies for enabling students to learn all aspects of particular industries–planning, management, finances, technical and production

skills, labor and community issues, health and safety, environmental issues, and the technology associated with the specific industry.

5. ~~Understanding of~~ Ability to articulate career/life planning procedures, transitioning processes and procedures, and career-search techniques.

6. ~~Understanding~~ Application of and proficiency in grammar, usage, and mechanics and their integration in writing.

7. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8. Ability to use a variety of technologies to deliver instruction and media to students, parents, teachers, and community partners.

9. Demonstration and integration of workplace readiness skills in the classroom and real-world activities.

10. Demonstrate person-centered planning skills.

8VAC20-542-250. Computer science.

The program in computer science shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of mathematical principles that are the basis of many computer applications;

2. Knowledge of the functions, capabilities, and limitations of computers and computer systems;

3. Knowledge of the ethical, moral, and legal issues associated with applications in programming and computer science ~~Knowledge of structured program and algorithm design, and data structures; programming and evaluating programs in at least two widely used, high-level, structured programming languages~~;

~~3~~4. Knowledge of programming a~~nd evaluating programs~~ in at least two widely used, ~~high-level, structured~~ programming languages; languages including definition, structure, and comparison;

~~4~~5. Knowledge of programming languages including definition, ~~structure~~ design, ~~and~~ comparison, and evaluation; ~~Knowledge of the functions, capabilities, and limitations of computers;~~

6. Knowledge of ~~mainframe, minicomputer, and microcomputer systems~~ computers and computer systems and their applications;

7. ~~An ability to use currently available software for word processing, calculation/spreadsheet,~~ Knowledge of ~~database management, and~~ data structures and algorithms; ~~and communications; and~~

8. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~; and

9. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-260. Dance arts preK-12.

The program in dance arts shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of the dance arts discipline as defined in the Virginia Standards of Learning and how they provide a foundation needed to teach dance arts;

2. Understanding of the knowledge, skills, and processes for teaching dance arts to meet the developmental levels and academic needs of students in preK-12, including the following:

   a. Knowledge of and experience in planning, developing, administering, and evaluating a program of dance arts education;

   b. Knowledge and understanding for teaching dance arts, including: performance and creation and production, dance history and cultural context ~~and dance history, judgment and criticism,~~ analysis and evaluation and critique, and aesthetics;

   c. Ballet, folk, jazz, and modern dance with an area of concentration in one of these areas;

   d. Scientific foundations, including human anatomy, kinesiology, and injury prevention and care for dance arts;

   e. The relationship of dance arts and culture and the influence of dance on past and present cultures~~, including history of dance~~;

   f. Knowledge and understanding of technological and artistic copyright laws;

g. Knowledge and understanding of classroom management and safety, including performance and studio;

~~g~~h. Knowledge of a variety of instructional and assessment strategies to foster, support, and enhance student dance arts learning;

i. Knowledge and understanding of technology, with applications for instruction, resources, artistic expression, administration, assessment, and communication;

j. Knowledge and understanding of appropriate and sensitive attention to diversity and cultural understanding;

~~h~~k. Knowledge of related areas of the fine arts, such as music, theatre arts, and the visual arts; and

~~i~~l. Observation and student teaching experiences at the elementary, middle, and secondary levels.

~~3~~4. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~; and

5. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-270. Driver education (add-on endorsement).

The program in driver education shall ensure that the candidate has demonstrated the following competencies:

1. Basic understanding of the administration of a driver education program as required by §22.1-205 of the *Code of Virginia* and the ~~Curriculum and~~ Administrative Guide for Driver Education in Virginia including:

   a. Coordination and scheduling of classroom and in-car instruction;

   b. ~~Skill and content knowledge assessment~~ The Board of Education and the Department of Motor Vehicle's regulations governing driver education programs;

   c. Student safety and other legal liability issues;

   d. The juvenile licensing process;

   e. ~~Motor vehicle section of~~ Highway traffic safety and the driver licensing laws in the Code of Virginia;

f. Vehicle procurement maintenance and safety equipment requirements; ~~and~~

g. ~~Instructional technologies.~~ The Department of Education's and the Department of Motor Vehicle's juvenile licensing forms;

h. Monitoring and oversight procedures that ensure the approved program meets state curriculum objectives, goals and learning outcomes; the classroom and in-car hour requirements; and teachers have valid Virginia driver's licenses, acceptable driving records, and meet teacher licensure and/or in-car instructor training requirements;

i. Promoting parent involvement;

j. Providing opportunities for ongoing professional development; and

k. Integrating classroom and in-car instruction when possible to maximize transfer of skills.

2. ~~Basic content~~ Understanding of knowledge, skills and processes of ~~needed to understand and teach~~ classroom ~~and in-car~~ driver education instruction including:

a. Traffic laws, signs, signals, pavement markings, and right-of-way rules;

b. Licensing procedures, and other legal responsibilities associated with the driving privilege; and vehicle ownership;

c. The effect of speed and steering on ~~V~~vehicle balance and control ~~skills~~;

d. Communicating and ~~Interaction~~ interacting with other highway users (pedestrians, animals, motorcycles, bicycles, trucks, buses, trains, trailers, motor homes, ATVs, and other recreational users) in a positive manner;

e. Managing of ~~T~~time, space, and visibility, and using perceptual skills ~~and~~ in the risk management ~~skills~~ process;

f. Alcohol and other drugs use ~~and driving~~;

g. Passive protective devices and active restraint systems;

h. Vehicle controls, ~~V~~vehicle maintenance, vehicle functions and malfunctions;

i. ~~Risk reducing behaviors (i.e.,~~ Consequences of aggressive driving, road rage, fatigue, ~~and~~ distracted driving~~)~~ and other physical, social and psychological influences that affect the driver;

j. Natural laws and environmental factors that influence the decision-making process ~~driving~~;

k. Adverse driving conditions and handling emergencies; ~~and~~

l. Planning a safe trip;

m. Differentiating instruction based on a continuous learning cycle;

n. Using assessments that foster student learning to inform decisions about instruction; and

o. Using new and emerging instructional technology and media effectively to enhance learning.

3. Understanding of ~~Basic content~~ knowledge, skills and processes of ~~needed to understand and teach the driver education~~ the laboratory phase of instruction including:

a. Simulation and other instructional technologies;

b. Multiple-car range;

c. Route planning and preparing for sequential instructional performances that lead to effective habit formation;

d. Providing clear, concise instructions when describing the critical elements of a driving skill;

e. Correctly using occupant restraints and protective devices;

f. The role of the driver and the observer;

g. Using commentary driving to determine visual search skills needed to identify and make risk-reducing decisions for safe speed and position;

h. Using reference points to gauge vehicle position and execute maneuvers with precision;

i. Selecting vehicle position to communicate or establish line of sight to targets;

j. Balancing vehicle movement through precise and timely steering, braking, and accelerating to manage vehicle weight transfer;

k. Applying visual search skills to manage risks in low, moderate, and high-risk driving environments;

l. Adjusting speed and space to communicate and reduce risks to avoid conflicts;

m. Preventing, detecting and/or managing vehicle traction loss in simulated and/or adverse driving conditions;

n. Using vehicle braking, traction and stability technologies;

o. Recognizing environmental factors that influence vehicle control;

p. Applying space management strategies to the front and sides, and monitoring space to the rear;

q. Understanding the consequences of speed selection;

r. Dividing mental attention between intended path of travel and other tasks;

~~d~~s. Demonstrating ~~B~~basic and evasive maneuvers and off-road recovery;

t. Recognizing understeer and oversteer, and the effects of traction, gravity, inertia and momentum on vehicle handling and control;

~~e~~u. Controlling ~~V~~vehicle ~~control~~ from instructor's seat;

v. Interacting with other roadway users in a positive manner;

~~f~~w. Using ~~M~~manual transmission; ~~and~~

x. Developing precision in the use of skills, processes, and habits for approach to intersection, curves, turns, parking, turnabouts, backing, lane change, passing/being passed, getting on/off highways, and responding to emergencies;

~~g~~y. ~~Administration~~ Administering ~~of~~ the driver's license road skills test ~~examination~~ and issuing the six-month temporary provisional license; ~~procedures for licensing students with disabilities~~; and

z. Completing a debriefing with a parent or guardian that includes a reminder that the parent must ultimately determine readiness for a driver's license.

4. Guiding parents to provide meaningful guided practice including:

a. Understanding the juvenile licensing laws and the parents' role in the juvenile licensing process;

b. Determining the readiness of the child to begin learning how to drive in a car;

c. Planning and supervising the learner's permit experience;

d. Keeping a record of the meaningful supervised driving hours; and

e. Adopting a written agreement with the child that reflects expectations, defines rules and consequences, and allows the parents to progressively grant broader driving privileges.

~~4~~5. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

6. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-280. Engineering.

The program in engineering shall ensure that the candidate demonstrates the following competencies:

1. Understanding of the knowledge, skills, and processes of the engineering discipline as defined in Virginia's high school engineering courses and how these provide a sound foundation for teaching engineering.

2. Understanding the nature of engineering design and analysis, including the:

a. Function of the engineering design process;

b. Methods used by engineers to generate, develop, and test ideas to meet design requirements;

c. Role of failure in the engineering design process

3. Understanding of the knowledge, skills, and processes for teaching engineering, including the ability to:

a. Formulate instruction reflecting the goals of the engineering courses that are taught in Virginia high schools;

b. Design, prototype, test, analyze, and operate solutions to engineering challenges;

c. Implement laboratory and field safety rules/procedures and ensure that students take appropriate safety precautions;

d. Organize key engineering content and skills into meaningful units of instruction;

e. Adapt instruction to diverse learners using a variety of techniques;

f. Evaluate student achievement, instructional materials, and teaching materials; and

g. Incorporate instructional technology to enhance student performance.

4. Understanding of content, processes, and skills of engineering, equivalent to an undergraduate degree in engineering, with course work in principles of engineering, engineering design, statics and dynamics, circuits, fluid mechanics, thermodynamics, materials, ordinary differential equations, and linear algebra.

5. Understanding of basic chemistry, biology, earth/space sciences, physics, and mathematics (including statistics and calculus) to ensure:

a. The placement of engineering in an appropriate STEM and interdisciplinary context;

b. The ability to teach the processes and organizing concepts of the natural and physical sciences to analyze successful and failed engineering designs; and

c. Student achievement in engineering.

6. Understanding of the contributions and significance of engineering, including:

a. Its social and cultural significance;

b. The relationship of engineering and its sub-fields (e.g., electrical engineering, mechanical engineering, bio-engineering, etc.) to the sciences, mathematics and technology; and

c. The historical development of engineering concepts and reasoning.

7. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing, oral, and multi-media presentations.

8. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-2~~8~~90. English.

The program in English shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of English as defined in the Virginia Standards of Learning;

2. Skills necessary to teach the writing process and the different ~~forms~~ modes of writing (narrative, descriptive, expository, persuasive, and ~~informational~~ analytical) and to employ available technology;

3. Knowledge of grammar, usage, and mechanics and their integration in writing;

4. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes;

~~4~~5. Understanding of the nature and development of language including vocabulary appropriate to the topic, audience, and purpose;

~~5~~6. Knowledge of reading strategies and techniques used to enhance reading ~~comprehensive~~ comprehension skills; in both fiction and nonfiction texts;

~~6~~7. Knowledge of communication skills including speaking and listening skills; and media and literacy;

~~7~~8. Knowledge of varied fiction and nonfiction ~~works~~ from young adult, British, American, world, and ethnic/minority ~~literature~~ texts appropriate for English instruction; ~~and~~

~~8~~9. The ability to provide experiences in communication arts, such as journalism, dramatics, debate, forensics, radio, television, films and other media production~~.~~;

10. Skills necessary to teach the analysis and production of media literacy;

11. Skills necessary to teach research including ethical accessing, evaluating, organizing, crediting, and synthesizing information; and

12. Knowledge of the Computer Technology Standards of Learning and their integration into English Language Arts.

8VAC20-542-~~29~~300. English as a second language preK-12.

The program in English as a second language shall ensure that the candidate has demonstrated the following competencies:

~~2~~1. Skills in ~~elementary and secondary teaching~~ methods ~~and student assessment for~~ of teaching English as a second language to include the understanding of the World-Class Instructional and Design assessment (WIDA) English Language Development (ELD) Standards;

2. Skills in student assessment for English as a second language to include the Assessing Comprehension and Communication in English State-to-State for English Language Learners (Access for ELLs®) test;

3. Skills in the teaching of reading and writing to include 1) the five areas of reading instruction: phonemic awareness, phonics, fluency, vocabulary and text comprehension; 2) ~~as well as the~~ similarities and differences between reading in a first language and reading in a second language; and 3) a balanced literacy approach;

4. Knowledge of the effects of socio-cultural variables in the instructional setting;

5. Proficiency in spoken and written English;

6. Understanding of second language acquisition;

~~6~~7. Knowledge of another language and its structure; ~~and~~

~~7~~8. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~;

9. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes; and

~~1~~10. Knowledge of ~~general linguistics and~~ English linguistics~~;~~.

8VAC20-542-3~~0~~10. Foreign language preK-12.

A. The specific language of the endorsement shall be noted on the license.

B. Foreign language preK-12 - languages other than Latin. The program in the foreign language shall ensure that the candidate has:

1. Demonstrated the following competencies:

a. Understanding of authentic speech at a normal tempo;

b. Ability to speak with a command of vocabulary, pronunciation, and syntax adequate for expressing thoughts to a native speaker not used to dealing with foreigners;

c. Ability to read and comprehend authentic texts of average difficulty and of mature content;

d. Ability to write a variety of texts including description and narration with clarity and correctness in vocabulary and syntax;

e. Knowledge of geography, history, social structure and artistic and literary contributions of the target societies;

f. Ability to interpret contemporary lifestyles, customs, and cultural patterns of the target societies;

g. Understanding of the application of basic concepts of phonology, syntax, and morphology to the teaching of the foreign language;

h. Knowledge of the national standards for foreign language learning, current proficiency-based and performance-based objectives of the teaching of foreign languages at the elementary and secondary levels, elementary and secondary methods and techniques for attaining these objectives, ~~the assessment of foreign language skills,~~ the use of technology and media in teaching languages, current curricular developments, the relationship of language study to other areas of the curriculum, and the professional literature of foreign language teaching; ~~and~~

i. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing; and

j. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes;

k. Knowledge of the assessment of foreign language skills in listening, speaking, reading and writing, and the differing types of assessments and their uses, including portfolio-based assessments, integrated performance assessments, and oral proficiency interviews; and

l. Knowledge of the characteristics of effective foreign language teaching, including the standards and key elements related to foreign language teaching as outlined in the Virginia Standards for the Professional Practice of Teachers.

2. Participated in opportunities for significant foreign language study or living experiences in this country or abroad, or both.

C. Foreign language preK-12 - Latin. The program in Latin shall ensure that the candidate has demonstrated the following competencies:

1. Ability to read and comprehend Latin in the original;

2. Ability to pronounce Latin with consistent classical (or ecclesiastical) pronunciation;

3. Knowledge of the vocabulary, phonetics, morphology and syntax of Latin and the etymological impact of Latin;

4. Ability to discuss the culture and civilization of Greco-Roman society, including history, daily life, art, architecture, and geography;

5. Ability to explain the relationship of Greco-Roman culture and civilization to subsequent cultures and civilizations;

6. Knowledge of major literary masterpieces and their relationship to the historical and social context of the society;

7. Competency in ~~(i)~~ current methodologies for teaching Latin at the elementary and secondary levels; ~~(ii)~~ lesson planning, scope and sequencing of material, instructional strategies and assessment under the guidance of an experienced Latin teacher; an

8. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~;

9. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes; and

10. Knowledge of the characteristics of effective foreign language teaching, including the standards and key elements related to foreign language teaching as outlined in the Virginia Standards for the Professional Practice of Teachers.

D. Foreign language preK-12 - American Sign Language. The program in American Sign Language shall ensure that the candidate has:

1. Demonstrated the following competencies:

a. Understanding of native users of American Sign Language at a normal tempo;

b. Ability to sign with a command of vocabulary, nominal behaviors, and syntax adequate for expressing thoughts to an American Sign Language user not accustomed to dealing with ~~non-American Sign Language users~~ individuals who do not use American Sign Language;

c. Knowledge of history, social structure and artistic and literary contributions of the ~~d~~Deaf culture;

d. Ability to interpret contemporary lifestyles, customs, and cultural patterns of the ~~d~~Deaf culture;

e. Understanding of the application of basic concepts of phonology (e.g., hand shapes, location, ~~types of signs,~~ palm orientation ~~on the body~~, sign movements), syntax, and morphology to the teaching of the American Sign Language;

f. Knowledge of the national standards for foreign language learning, current proficiency-based and performance-based objectives of the teaching of foreign languages at the elementary and secondary levels, elementary and secondary methods and techniques for attaining these objectives, the assessment of foreign language skills, the use of technology and media in teaching languages, current curricular developments, the relationship of language study to other areas of the curriculum, and the professional literature of foreign language teaching; and

g. Understanding of and proficiency in English grammar, usage, and mechanics and their integration in writing~~.~~;

h. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes; and

i. Knowledge of the characteristics of effective foreign language teaching, including the standards and key elements related to foreign language teaching as outlined in the Virginia Standards for the Professional Practice of Teachers.

2. Participation in opportunities for significant study of the linguistics of American Sign Language and immersion experiences in the ~~d~~Deaf culture.

8VAC20-542-3~~1~~20. Gifted education (add-on endorsement).

The program in gifted education shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of principles of the integration of gifted education and general education, including:

   a. Strategies to ~~encourage~~ facilitate the interaction of gifted students with students of similar and differing intellectual and academic abilities; ~~and~~

   b. Development of activities to encourage parental and community involvement in the education of the gifted~~, including the establishment and maintenance of an effective advisory committee.~~;

   c. Strategies to encourage collaboration among professional colleagues, especially in the areas of curriculum and professional development; and

   d. Strategies to collaborate and consult with general education teachers and other resource specialists on behalf of gifted students.

2. Understanding of the characteristics of gifted students, including:

a. Varied expressions of advanced aptitudes, skills, creativity, and conceptual understandings

b. ~~Methodologies that respond to~~ Varied expressions of the affective (social-emotional) needs of gifted students; and

c. Gifted behaviors in special populations (i.e., those who are culturally and linguistically diverse, economically disadvantaged, highly gifted, or ~~physically disabled~~ have special needs or disabilities, including twice-exceptional students).

3. Understanding of specific techniques to identify gifted students using diagnostic and prescriptive approaches to assessment, including:

a. The selection, use, and ~~evaluation~~ interpretation of multiple standardized, norm-referenced aptitude and achievement assessment instruments ~~and identification strategies~~;

b. The selection, use and evaluation of multiple identification criteria and strategies;

~~b~~c. The use of both ~~subjective and objective~~ formal and informal non-biased measures to provide relevant information regarding the aptitude/ability or achievement of potentially gifted students;

~~c~~d. The use of authentic assessment tools such as portfolios to determine performance, motivation/interest and other characteristics of potentially gifted students;

~~d~~e. The ~~development,~~ use~~,~~ and ~~reliability~~ interpretation of reliable ~~of~~ rating scales, checklists, and questionnaires by parents, teachers and others;

~~e~~f. The evaluation of data collected from student records such as grades, honors, and awards;

~~f~~g. The use of case study reports providing information concerning exceptional conditions; and

~~g~~h. The ~~structure, training, and procedures used by~~ roles and responsibilities of the identification and placement committee.

4. Understanding and application of a variety of ~~educational~~ curricular and instructional models, ~~teaching methods~~ methodologies and strategies ~~for selecting materials and resources~~ that ensure:

a. ~~Academic rigor through the development of high-level proficiency in all core academic areas utilizing the Virginia Standards of Learning as a baseline~~ The use of the Virginia Standards of Learning as a foundation to develop a high level of

proficiency, academic rigor, and complexity for gifted learners in all curricular academic areas;

b. The acquisition of knowledge and development of products that demonstrate creative and critical thinking as applied to student learning both in and out of the classroom, including inquiry-based instruction, questioning strategies, and problem-solving skills; ~~and~~

c. The development of learning environments that guide students to become self-directed, reflective, independent learners~~.~~;

d. The acquisition of tools to enable students to contribute to a multicultural, diverse society, including preparation for college and careers; and

e. The development of learning environments that recognize and support the affective needs of the gifted students.

5. Understanding and application of theories and principles of appropriately differentiating curriculum specifically designed to ~~match the distinct characteristics of gifted learners to the programs and curriculum offered to~~ accommodate the accelerated learning aptitudes of gifted students, including:

~~a. The integration of multiple disciplines into an area of study;~~

~~b. Emphasis on in-depth learning, independent and self-directed study skills and metacognitive skills;~~

~~c. The development of analytical, organizational, critical, and creative thinking skills;~~

~~d. The development of sophisticated products using varied modes of expression;~~

~~e. The evaluation of student learning through appropriate and specific criteria; and~~

~~f. The development of advanced technological skills to enhance student performance.~~

a. Accelerated and enrichment opportunities that recognize gifted students' needs for advanced content and pacing of instruction, original research or production, problem-finding and -solving, higher level thinking that leads to the generation of products, and a focus on issues, themes, and ideas integrated within and across disciplines;

b. Opportunities for students to explore, develop, and research their areas of interest, talent, or strength, using varied modes of expression;

c. Emphasis on advanced and complex content that is paced and sequenced to respond to gifted students' persistent intellectual, artistic, or technical curiosity; exceptional

problem-solving abilities; rapid acquisition and mastery of information; conceptual thinking processes; and imaginative expression across a broad range of disciplines;

d. Evaluation of student academic growth and learner outcomes through appropriate multiple criteria, including a variety of pre- and post-assessments; and

e. Use of current and advanced technologies to enhance student performance and academic growth.

6. Understanding of contemporary issues and research in gifted education, including:

a. The systematic gathering, analyzing, and reporting of formative and summative data from local, state, and national perspectives; and

b. Current local, state, and national policies, trends, and issues ~~and concerns~~.

7. Understanding of and proficiency in grammar, usage, and mechanics and their integration in ~~writing~~ all forms of communication.

8. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

~~8~~9. The program shall include a practicum that shall include a minimum of 45 instructional hours of successful teaching experiences with gifted students. ~~in a heterogeneously grouped (mixed ability) classroom and a homogeneously grouped (single ability) classroom~~.

8VAC20-542-3~~2~~30. Health and physical education preK-12.

The program in health and physical education preK-12 shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of health and physical education as defined in the Virginia Standards of Learning.

2. Understanding basic human anatomy, ~~and~~ physiology and kinesiology needed to apply discipline-specific biomechanical concepts critical to the development of physically educated individuals. ~~teach quality health and physical education.~~

3. Understanding of the basic scientific principles of ~~under girding~~ human movement as they apply to:

a. Health-related fitness (flexibility, muscular strength and endurance, ~~cardiovascular~~ cardio respiratory endurance, and body composition); ~~and~~

b. Skill-related fitness (coordination, agility, power, balance, speed and reaction time)~~.~~; and

c. Analyzing and correcting critical elements of motor skills and performance concepts related to skillful movement and fitness.

4. Basic understanding of the administration and planning for ~~of~~ a health and physical education program, including:

a. Differentiated ~~I~~instruction based on a continuous learning cycle;

b. Student safety, classroom management, ~~and other~~ injury prevention, and liability ~~legal~~ issues;

c. Standards-based curriculum and ~~A~~assessments that foster student learning and inform decisions about instruction; ~~and~~

d. ~~It's~~ The role ~~in~~ of ~~comprehensive~~ coordinated school and community health.

e. Utilizing School Health Advisory Boards, local health departments and other representative stakeholders for support for best practice; and

f. Increasing physical activity behaviors before, during and after school.

5. Understanding of the essential health knowledge, skills, and processes for teaching developmentally and culturally appropriate health education content standards, including:

a. ~~Personal h~~Health promotion and chronic disease prevention ~~fitness~~;

b. Mental, social and emotional health;

c. Nutrition, body image, eating disorders, energy balance and weight management;

d. Tobacco, alcohol, and other drugs use prevention;

e. Safety and emergency care (first aid, CPR, AED, universal precautions);

f. Injury and violence prevention ~~and rehabilitation~~;

g. Consumer health and information access;

h. Communicable and noncommunicable diseases prevention and treatment;

i. Environmental health;

j. Personal, family and ~~C~~community health ~~and wellness~~; ~~and~~

k. ~~Violence~~ Bullying prevention, resistance skills and conflict mediation~~.~~; and

l. Theories and models of behavior change and goal-setting.

6. Understanding of the knowledge, skills, and processes for teaching physical education, including:

a. Articulated, ~~S~~sequential preK-12 instruction in a variety of movement forms that include:

(1) ~~Cooperative activities~~ Functional fitness;

(2) ~~Outdoor and adventure activities~~ Developmentally appropriate movement skills; and

(3) ~~Rhythms and dance; and~~ Movement principles and concepts.

~~(4) Team and individual activities;~~

b. Activities that meet the needs of the diverse learner; ~~for the physically and mentally challenged; and~~

c. Design learning ~~A~~activities ~~designed~~ to help students understand, develop, ~~and~~ value and achieve personal fitness~~.~~;

d. Knowledge of human growth, development and motor learning;

e. The relationship between a physically active lifestyle and health;

f. Knowledge of the cognitive, social and emotional development through physical activity;

g. Incorporate strategies that promote effective physical activity learning environments;

h. Use authentic, traditional, psychomotor and fitness assessment methods;

i. The cultural significance of dance, leisure, competition, and sportsmanship; and

j. Demonstrate personal competence in motor skill performance for a variety of movement patterns, modeling healthy behaviors and maintaining health-enhancing level of fitness.

7. Understanding of and ability to ~~teach~~ design developmentally appropriate curriculum, instruction and performance-based assessment that is aligned with the Virginia Standards of Learning for Health and Physical Education:

   a. ~~The relationship between a physically active lifestyle and health~~; Develop a developmentally appropriate scope and sequence plan of essential health and physical education concepts, information and skills based on the Virginia Standards of Learning;

   b. ~~The cultural significance of dance, leisure, competition, and sportsmanship; and~~ Use the scope and sequence plan to develop performance indicators that describe the essential concepts and skills;

   c. ~~The u~~ Use ~~of~~ new and emerging instructional technology and media effectively to enhance learning~~.~~

   d. Use research-based educational strategies to meet diverse learning styles and needs;

   e. Adapt and create strategies best suited for delivering instruction in diverse settings;

   f. Employ individual and cooperative group learning strategies;

   g. Connect instruction to prior student learning, and to other curricular areas; and

   h. Use evaluation to plan a continuous cycle of learning strategies that reinforce mastery of performance indicators.

8. ~~Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.~~ Obtaining, analyzing and applying health- and fitness-related data to meet the cultural, social, growth and development needs of the students and community.

   a. Select valid and current sources of information and data;

   b. Use computerized sources of information and appropriate data-gathering instruments; and

   c. Analyze and interpret data and determine priority areas of focused instruction.

~~8~~9. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

10. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-3~~3~~4~~0~~0. History and social sciences.

The program in history and social sciences shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of history and the social science disciplines as defined by the Virginia History and Social Sciences Standards of Learning and how the standards provide the foundation for teaching history and the social sciences, including in:

   a. United States history.

      (1) The evolution of the American constitutional republic and its ideas, institutions, and practices from the philosophical origins in the Enlightenment, through the debates of the colonial period to the present; the American Revolution, including ideas and principles preserved in significant Virginia and United States historical documents as required by §22.1-201 of the Code of Virginia (Declaration of American Independence, the general principles of the Constitution of the United States, the Virginia Statute of Religious Freedom, the charters of April 10, 1606, May 23, 1609, and March 12, 1612, of the Virginia Company, and the Virginia Declaration of Rights); Articles of Confederation, and historical challenges to the American political system;

      (2) The influence of religious traditions on American heritage and contemporary American society;

      (3) The influence of immigration on American political, social, cultural, and economic life;

      (4) The origins, effects, aftermath and significance of the two world wars, the Korean and Vietnam conflicts, and the Post-Cold War Era;

      (5) The social, political, and economic transformations in American life during the 20th century;

      (6) The tensions between liberty and equality, liberty and order, region and nation, individualism and the common welfare, and between cultural diversity and national unity; and

      (7) The difference between a democracy and a republic~~.~~ and other types of economic and political systems.

   b. World history.

      (1) The political, philosophical, and cultural legacies of ancient American, Asian, African, and European civilizations;

(2) The origins, ideas, and institutions of Judaism, Christianity, Hinduism, Confucianism and Taoism, and Shinto, Buddhist and Islamic religious traditions;

(3) Medieval society, institutions, and civilizations; feudalism and the evolution of representative government;

(4) The social, political, cultural, and economic ~~contributions~~ innovations of selected civilizations in Africa, Asia, Europe, and the Americas;

(5) The ~~culture and~~ ideas of the Renaissance and the Reformation, European exploration, and the origins of capitalism and colonization;

(6) The cultural ideas of the Enlightenment and the intellectual and political revolution of the 17th and 18th centuries;

(7) The sources, results, and influences of the American ~~and~~ French, and Latin American revolutions;

(8) The social and economic consequences of the Industrial Revolution and its impact on politics and culture~~;~~, and the lives of everyday people;

(9) The ~~global~~ influence of ~~European~~ global ideologies of the 19th and 20th centuries (liberalism, republicanism, social democracy, Marxism, nationalism, Communism, Fascism, and Nazism, post-colonialism); ~~and~~

(10) The origins, effects, aftermath and significance of the two world wars, the Korean and Vietnam conflicts, and the Post-Cold War Era~~.~~; and

(11) The development of globalization and the growing interdependence and inter-relationship among countries and cultures in the world.

c. Civics/government and economics.

(1) The essential characteristics of ~~limited and unlimited~~ governments;

(2) The importance of the Rule of Law for the protection of individual rights and the common good;

(3) The rights and responsibilities of American citizenship;

(4) The nature and purposes of constitutions and alternative ways of organizing constitutional governments;

(5) American political culture;

(6) ~~Values and~~ ~~p~~Principles of the American constitutional republic;

(7) The idea of federalism and states' rights

~~(7)~~(8) The structures, functions, and powers of local and state government;

~~(8)~~(9) Importance of citizen participation in the political process in local and state government;

~~(9)~~(10) Local government and civics instruction specific to Virginia;

~~(10)~~(11) The structures, functions, and powers of the national government;

~~(11)~~(12) The role of the United States government in foreign policy and national security;

~~(12)~~(13) The structure of the federal judiciary;

~~(13)~~(14) The structure and function of the United States market economy as compared with other economies;

~~(14)~~(15) Knowledge of the impact of the government role in the economy and individual economic and political freedoms;

~~(15)~~(16) Knowledge of economic systems in the areas of productivity and key economic indicators; ~~and~~

~~(16)~~(17) The analysis of global economic trends~~.~~; and

(18) Knowledge of international organizations, both political and economic, such as the United Nations, International Court in the Hague, and the International Monetary Fund.

d. Geography.

(1) Relationship between human activity and the physical environment, the ways in which geography governs human activity; and the effects of human activity on geographic features;

~~(1)~~(2) Use of maps and other geographic representations, tools, and technologies to acquire, process, and report information;

~~(2)~~(3) Physical and human characteristics of places;

~~(3) Relationship between human activity and the physical environment;~~

(4) Physical processes that shape the surface of the earth;

~~(5) Characteristics and distribution of ecosystems on the earth;~~

~~(6)~~(5) Characteristics, distribution, and migration of human populations;

~~(7)~~(6) Patterns and networks of economic interdependence;

~~(8)~~(7) Processes, patterns, and functions of human settlement;

~~(9)~~(8) How the forces of conflict and cooperation influence the division and control of the earth's surface;

~~(10) How physical systems affect human systems;~~

~~(11)~~(9) Changes that occur in the meaning, use, distribution, and importance of resources; ~~and~~

~~(12)~~(10) Applying geography to interpret the past and the present and to plan for the future~~.~~; and

(11) Impact of geospatial technologies on the study of geography—physical and human.

2. Understanding of history and social sciences to appreciate the significance of:

a. Diverse cultures and shared humanity;

b. How things happen, how they change, and how human intervention matters;

c. The interplay of change and continuity;

d. How people in other times and places have struggled with fundamental questions of truth, justice, and personal responsibility;

e. The importance of individuals and groups who have made a difference in history and the significance of personal character to the future of society;

f. The relationship among history, geography, civics, and economics;

g. The difference between fact and conjecture, evidence and assertion, and the importance of framing useful questions;

h. How ideas have real consequences; and

i. The importance of primary documents and the potential problems with second-hand accounts~~;~~. ~~And~~

~~j. How scientific and technological advances affect the workplace, healthcare, and education.~~

3. Understanding of the use of the content and processes of history and social sciences instruction, including:

   a. Fluency in historical thinking and geographic analysis skills;

   b. Skill in debate, discussion, and persuasive writing;

   c. The ability to organize key social science content into meaningful units of instruction based on Historical Thinking Skills;

   d. The ability to provide instruction using a variety of instructional techniques;

   e. The ability to evaluate primary and secondary instructional resources, instruction, and student achievement; ~~and~~

   f. The ability to incorporate appropriate technologies into social science instruction~~.~~; and

   g. The development of digital literacy skills while recognizing the influence of the media.

4. Understanding of the content, processes, and skills of one of the social sciences disciplines at a level equivalent to an undergraduate major, along with ~~sufficient~~ proficient understanding of the three supporting disciplines to ensure:

   a. The ability to teach the processes and organizing concepts of social science;

   b. An understanding of the significance of the social sciences;

   c. Student achievement in the social sciences; and

   ~~d. An understanding of the media influence on contemporary America.~~

5. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing and communications.

6. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

7. Skills necessary to teach research including use of primary and secondary sources, ethical accessing, evaluating, organizing, crediting, and synthesizing information.

8VAC20-542-34~~5~~0. Journalism (add-on endorsement).

The program in journalism (add-on endorsement) shall ensure that the candidate has demonstrated the following competencies:

1. Understanding ~~of~~ the history and functions of journalism in American culture including the value of freedom of speech and press and the complexity of legal and ethical issues;

2. Understanding press law and ethics as it applies to scholastic media, including First Amendment-related rights and responsibilities.

~~2~~3. Understanding of the knowledge of and experience in theory and practice of both print and nonprint media including design and layout production and the use of technology; ~~and~~

~~3~~4. Possession of skills in teaching journalistic ~~management and the processes of~~ writing, interviewing, ~~and writing,~~ and editing for a variety of purposes, audiences, and formats; ~~including news articles, features, ad copy, obituaries, reviews, editorials, and captions; their differences and the ability to analyze and evaluate journalism.~~

5. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing and communications;

6. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes; and

7. Skills to lead student media and production(s), including an understanding of fiscal responsibility, conflict resolution, and time management.

8VAC20-542-3~~5~~60. Keyboarding (add-on endorsement).

The program in keyboarding (add-on endorsement) shall ensure that the candidate has demonstrated the following competencies:

1. Possession of skills in fingering and keyboard manipulation techniques to model and provide touch keyboarding instruction;

2. Ability to provide instruction that allows students to develop touch fingering techniques in a kinesthetic response to the keyboard required for rapid, accurate entry of data and information; ~~and~~

3. Ability to provide instruction for current procedures in formatting documents~~.~~;

4. Ability to provide instruction that allows students to develop proper keyboarding techniques based on ergonomics research to minimize future repetitive strain injuries~~.~~;

5. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing and communications; and

6. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-3~~6~~70. Library media preK-12.

The program in library media preK-12 shall ensure that the candidate has demonstrated the following competencies:

~~1. Proficiency in selecting, evaluating, organizing, and processing materials and equipment;~~

~~2. Proficiency in the production and use of a variety of media (print and nonprint);~~

~~3. Proficiency in organizing, managing, and evaluating media programs;~~

~~4. Proficiency in applying the principles of curriculum planning, learning, and teaching as they relate to informational skills and to the role of the library-media specialist as a resource person and as a member of the educational team;~~

~~5. Understanding of the knowledge, skills, and processes of the issues surrounding ethical access and use of information, including copyright, intellectual freedom, privacy, and security; and~~

1. Proficiency in Teaching for Learning, including: knowledge of learners and learning; effective and knowledgeable teaching; collaborative instructional partners; integration of twenty-first century skills, learning standards, and technologies; assessment of and for student learning; and the design and implementation of instruction that engages students' interests and develops their ability to inquire, think critically, gain and share knowledge.

2. Proficiency in Literacy and Reading, including: familiarity with children's, young adult, and professional literature in multiple formats; use of a variety of strategies to promote reading for enjoyment and information; collection development to support diverse learning needs; and collaboration to reinforce reading instructional strategies.

3. Proficiency in Information and Knowledge, including: efficient and ethical information-seeking behavior, ethical and equitable access to information, design and

delivery of authentic learning through current and emerging technology, and the use of evidence-based action research to create and share knowledge.

4. Proficiency in Advocacy and Leadership, including: networking with the library community, commitment to professional development, leadership in articulating the role of the school library program in the educational community and in student learning, and advocacy for school library programs, resources, and services.

5. Proficiency in Program Management and Administration, including: planning, developing, implementing, and evaluating library programs, collections, and facilities; personnel; funding; organization of materials; professional ethics; and strategic planning and program assessment.

6. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing in multiple formats.

7. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-37~~7~~80. Mathematics.

The program in mathematics shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of the Virginia Mathematics Standards of Learning and how curriculum may be organized to teach these standards to diverse learners;

2. Understanding of a core knowledge base of concepts and procedures within the discipline of mathematics, including the following strands: number systems and number theory; geometry and measurement; analytic geometry; statistics and probability; functions and algebra; multivariate calculus; ~~and~~ discrete mathematics; and linear and abstract algebra;

3. Understanding of the sequential and interrelated nature of mathematics, the vertical progression of mathematical standards, and the mathematical structures inherent in the content strands;

4. Understanding of the connections among mathematical concepts and procedures and their practical applications;

5. Understanding of and the ability to use the five processes – becoming mathematical problem-solvers, reasoning mathematically, communicating mathematically, making mathematical connections, and using mathematical models and representations – at different levels of complexity;

6. Understanding of the history of mathematics, including the contributions of different individuals and cultures toward the development of mathematics and the role of mathematics in culture and society;

7. Understanding of major current curriculum studies and trends in mathematics;

8. Understanding how to utilize appropriate technologies for teaching and learning mathematics, including graphing utilities, dynamic software, spreadsheets, and virtual manipulatives;

~~8. Understanding of the role of technology and the ability to use graphing utilities and computers in the teaching and learning of mathematics;~~

9. Understanding of and the ability to select, adapt, differentiate, evaluate and use instructional materials and resources, including professional journals and technology;

10. Understanding of and the ability to use strategies for managing, assessing, and monitoring student learning, including diagnosing student errors;

11. Understanding of and the ability to use strategies to teach mathematics to diverse learners; ~~and~~

12. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~; and

13. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-38~~9~~0. Mathematics - Algebra I (add-on endorsement).

The program in Algebra I shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the mathematics relevant to the content identified in the Mathematics Standards of Learning and how the standards provide the foundation for teaching middle level mathematics through Algebra I, including: ~~The use of technology shall be used in enhancing the student's ability to develop concepts, compute, solve problems, and apply mathematics in practical applications with the mathematics content, including~~:

   a. The structure of real numbers and subsets, basic operations, and properties;

   b. Elementary number theory, ratio, proportion, and percent;

c. Algebra, trigonometry, and analytic geometry: operations with monomials and polynomials; ~~algebraic fractions~~ rational expressions; linear, quadratic, and higher degree equations and inequalities; linear systems of equations and inequalities; nonlinear systems of equations; radicals and exponents; complex numbers; arithmetic and geometric sequences and series; algebraic, trigonometric, logarithmic, exponential, absolute value, and step functions; domain and range of functions; composite and inverse functions; one-to-one mapping; transformations between graphical, tabular and symbolic form of functions; direct and inverse variation; line and curve of best fit; conics; and recognition and application of trigonometric identities;

d. Calculus: applications of limits, differentiation, and ~~standard~~ integration ~~and differentiation~~;

e. Linear algebra: matrices, vectors, and linear transformations;

~~f. Measurement systems, including U.S. customary and metric;~~

~~g~~f. Geometry: geometric figures, their properties, relationships, and application of the Pythagorean Theorem; using deductive axiomatic methods of proof and inductive reasoning; perimeter, area and surface area of two- and three-dimensional figures; coordinate and transformational geometry; ~~and~~ constructions, and applications of algebra in geometry;

~~h~~g. Probability and statistics: experimental and theoretical probability; prediction; graphical representations, including box-and-whisker plots; and measures of ~~central tendency~~ center, range, standard deviation, z-scores, and simple and normal distributions; and

~~i~~h. Discrete mathematics: symbolic logic, sets, permutations and combinations, functions that are defined recursively, and linear programming~~;~~. ~~and~~

~~j. Computer science: terminology, simple programming, and software applications.~~

2. Understanding of varied pedagogical approaches to teaching algebraic concepts and their connected procedures.

3. Understanding of the connections among algebraic concepts, procedures, models, and practical applications.

4. Understanding of the sequential and interrelated nature of mathematics and the mathematical structures inherent in algebra.

5. Understanding of and the ability to use the five processes – becoming mathematical problem-solvers, reasoning mathematically, communicating mathematically, making

mathematical connections, and using mathematical models and representations – at different levels of complexity.

6. Understanding how to utilize appropriate technologies for teaching and learning algebra, including graphing utilities, dynamic software, spreadsheets, and virtual manipulatives.

7. Understanding of and the ability to use strategies for managing, assessing, and monitoring student learning, including diagnosing student errors.

8. Understanding of and the ability to use strategies to teach algebra to diverse learners.

~~2~~9. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

10. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-~~39~~400. Music education - instrumental preK-12.

The program in music education - instrumental preK-12 shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of the music discipline as defined in the Virginia Standards of Learning and how they provide a necessary foundation integral to teaching instrumental music.

2. Understanding of the common elements of music – rhythm, melody, harmony, timbre, texture, dynamics, form – and their relationship with each other and student academic needs and to employ this understanding in the analysis of music.

3. Effective musicianship through the development of:

   a. Basic skills in conducting, in score reading, in teaching musical courses and in rehearsal techniques for choral and instrumental music;

   b. Skills in composing, arranging, and adapting music to meet the classroom needs and ability levels of school performing groups;

   c. Skills in providing and directing creative experiences and improvising when necessary;

   d. Proficiency, sufficient for classroom instruction, on keyboard or other accompanying instrument; and

   e. The ability to perform in ensembles.

4. Knowledge and understanding for teaching music, including: music theory, performance, music history and cultural context, analysis and evaluation and critique, and aesthetics.

~~4~~5. Knowledge of music history and literature with emphasis on the relationship of music to culture and the ability to place compositions in historical and stylistic perspective.

~~5~~6. Knowledge of a comprehensive program of music education based upon sound philosophy, content, and methodology for teaching in elementary, middle, and secondary schools.

7. Specialization on a musical instrument and functional teaching knowledge on each of the string, brass, woodwind, and percussion instruments.

8. Competency in teaching rehearsing and conducting combined instrumental and vocal groups. In addition, the program shall provide instruction in business procedures, organization, and management of large and small instrumental ensembles~~,~~. ~~with knowledge of vocal techniques in rehearsing and conducting combined instrumental and vocal groups.~~

9. Knowledge of vocal techniques in teaching, rehearsing, and conducting combined instrumental and vocal groups.

~~9~~10. Knowledge and understanding of technological and artistic copyright laws.

~~10~~11. Knowledge and understanding of classroom management and safety, including performance and studio.

~~11~~12. Knowledge of a variety of instructional and assessment strategies to foster, support, and enhance student music learning.

13. Knowledge and understanding of technology, with applications for instruction, resources, artistic expression, administration, business procedures, assessment, and communication.

14. Knowledge and understanding of appropriate and sensitive attention to diversity and cultural understanding.

~~12~~15. Knowledge of related areas of the fine arts, such as dance arts, theatre arts, and the visual arts.

~~6~~16. Observation and professional laboratory experiences with pupils in elementary, middle, and secondary schools, including instruction of instrumental groups.

~~13~~17. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

18. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-~~40~~10. Music education - vocal/choral preK-12.

A. The program in music education - vocal/choral preK-12 shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of the music discipline as defined in the Virginia Standards of Learning and how they provide a necessary foundation integral to teaching instrumental music.

2. Understanding of the common elements of music–rhythm, melody, harmony, timbre, texture, dynamics, form–and their relationship with each other and student academic needs and to employ this understanding in the analysis of music.

3. Effective musicianship through the development of:

a. Basic skills in conducting, in score reading, in teaching musical courses, and in rehearsal techniques for choral and instrumental music;

b. Skills in composing, arranging, and adapting music to meet the classroom needs and ability levels of school performing groups;

c. Skills in providing and directing creative experiences and improvising when necessary;

d. Proficiency, sufficient for classroom instruction, on keyboard or other accompanying instrument; and

e. The ability to perform in ensembles.

4. Knowledge and understanding for teaching music, including: music theory, performance, music history and cultural context, analysis and evaluation and critique, and aesthetics.

~~4~~5. Knowledge of music history and literature with emphasis on the relationship of music to culture and the ability to place compositions in historical and stylistic perspective.

~~5~~6. Knowledge of a comprehensive program of music education based upon sound philosophy, content, and methodology for teaching in elementary, middle, and secondary schools.

7. Specialization in the methods, materials, and media appropriate to the teaching of vocal/choral and general music at elementary, middle, and secondary levels.

8. Competency in teaching, rehearsing, and conducting choral ensembles and combined vocal and instrumental school groups. In addition, the program shall provide instruction in business procedures, organization, and management of large and small choral ensembles~~,~~. ~~with knowledge of instrumental techniques in rehearsing and conducting combined vocal and instrumental school groups.~~

9. Knowledge of instrumental techniques in teaching, rehearsing, and conducting combined vocal and instrumental school groups.

~~9~~10. Knowledge and understanding of technological and artistic copyright laws.

~~10~~11. Knowledge and understanding of classroom management and safety, including performance and studio.

~~11~~12. Knowledge of a variety of instructional and assessment strategies to foster, support, and enhance student music learning.

13. Knowledge and understanding of technology, with applications for instruction, resources, artistic expression, administration, business procedures, assessment, and communication.

14. Knowledge and understanding of appropriate and sensitive attention to diversity and cultural understanding.

~~12~~15. Knowledge of related areas of the fine arts, such as dance arts, theatre arts, and the visual arts.

~~6~~16. Observation and professional laboratory experiences with pupils at elementary, middle, and secondary levels, including instruction of choral groups.

~~13~~17. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

18. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-4~~1~~20. Science - biology.

The program in biology shall ensure that the candidate demonstrates the following competencies:

1. Understanding of the knowledge, skills, and processes of the four core science disciplines as defined in the Virginia Science Standards of Learning and how these provide a sound foundation for teaching biology.

2. Understanding of the nature of science and scientific inquiry, including the:

   a. Function of research design and experimentation;

   b. Role and nature of the theory in explaining and predicting events and phenomena; ~~and~~

   ~~c. Role of observation, measurement, data, and evidence in verifying and validating scientific concepts and principles.~~

   c. Practices required to provide empirical answers to research questions, including data collection and analysis, modeling, augmentation with evidence, and constructing explanations;

   d. Reliability of scientific knowledge and its constant scrutiny and refinement;

   e. Self-checking mechanisms used by science to increase objectivity including peer review; and

   f. Assumptions, influencing conditions, and limits of empirical knowledge.

3. Understanding of the knowledge, skills, and processes for teaching laboratory science, including the ability to:

   a. Design instruction reflecting the goals of the Virginia Science Standards of Learning;

   ~~b. Conduct research projects and experiments;~~

   b~~c.~~ Implement laboratory safety rules/procedures and ensure that students take appropriate safety precautions;

   c. Conduct research projects and experiments including applications of the design process and technology;

   d. Conduct systematic field investigations using the school grounds, the community, and regional resources;

e~~d~~. Organize key biological content, skills and practices into meaningful units of instruction~~;~~ that actively engage students in learning;

f~~e~~. Design ~~Adapt~~ instruction to meet the needs of diverse learners using a variety of techniques;

g~~f~~. Evaluate ~~student achievement,~~ instructional materials and teaching practices; ~~and~~

h. Conduct formative and summative assessments of student learning;

i~~g~~. Incorporate instructional technology to enhance student performance~~.~~; and

j. Ensure student competence in biology.

4. Understanding of the content, processes, and skills of biology, equivalent to an undergraduate degree in biology, with course work in genetics, biochemistry/molecular biology, cell biology, botany, zoology, anatomy/physiology, ~~and~~ ecology, and evolutionary biology.

5. Understanding of basic physics, chemistry (including organic chemistry), the Earth sciences, and mathematics (including statistics) to ensure:

   a. The placement of biology in an appropriate interdisciplinary context;

   b. The ability to teach the processes and ~~organizing~~ crosscutting concepts common to the natural and physical sciences; and

   c. The application of key principles in biology to solve practical problems; and

   ~~c. Student achievement in biology.~~

   d. A “systems” understanding of the natural world.

6. Understanding of the contributions and significance of biology, including:

   a. Its social, ~~and~~ cultural, and economic significance;

   b. The relationship of biology and other sciences to mathematics, the design process and technology; and

   c. The historical development of scientific concepts and scientific reasoning.

7. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

8. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-4~~2~~30. Science - chemistry.

The program in chemistry shall ensure that the candidate demonstrates the following competencies:

1. Understanding of the knowledge, skills, and processes of the four core science disciplines as defined in the Virginia Science Standards of Learning and how they provide a sound foundation for teaching chemistry.

2. Understanding of the nature of science and scientific inquiry including the:

   a. Function of research design and experimentation;

   b. Role and nature of the theory in explaining and predicting events and phenomena; and

   ~~c. Role of observation, measurements, data, and evidence in verifying and validating scientific concepts and principles.~~

   c. Practices required to provide empirical answers to research questions, including data collection and analysis, modeling, augmentation with evidence, and constructing explanations;

   d. Reliability of scientific knowledge and its constant scrutiny and refinement;

   e. Self-checking mechanisms used by science to increase objectivity including peer review; and

   f. Assumptions, influencing conditions, and limits of empirical knowledge.

3. Understanding of the knowledge, skills, and processes for teaching laboratory science, including the ability to:

   a. Design instruction reflecting the goals of the Virginia Science Standards of Learning;

   ~~b. Conduct research projects and experiments;~~

   b~~c~~. Implement laboratory safety rules/procedures and ensure that students take appropriate safety precautions;

c. Conduct research projects and experiments including applications of the design process and technology;

d. Conduct systematic field investigations using the school grounds, the community, and regional resources;

e~~d~~. Organize key chemistry content, skills and practices into meaningful units of instruction~~;~~ that actively engage students in learning;

f~~e~~. Design ~~Adapt~~ instruction to meet the needs of diverse learners using a variety of techniques;

g~~f~~. Evaluate ~~student achievement,~~ instructional materials and teaching practices; ~~and~~

h. Conduct formative and summative assessments of student learning;

i~~g~~. Incorporate instructional technology to enhance student performance~~.~~; and

j. Ensure student competence in chemistry.

4. Understanding of content, processes, and skills of chemistry, equivalent to an undergraduate degree in chemistry, with course work in biochemistry, inorganic chemistry, organic chemistry, physical chemistry, and analytical chemistry.

5. Understanding of basic physics, Earth science, biology, ~~the Earth sciences,~~ and mathematics ~~(including statistics and calculus)~~ to ensure:

   a. The placement of chemistry in an appropriate interdisciplinary context;

   b. The ability to teach the processes and ~~organizing~~ crosscutting concepts common to the natural and physical sciences; ~~and~~

   c. The application of key principles in chemistry to solve practical problems; and

   ~~c. Student achievement in chemistry.~~

   d. A “systems” understanding of the natural world.

6. Understanding of the contributions and significance of chemistry, including:

   a. Its social, ~~and~~ cultural, and economic significance;

   b. The relationship of chemistry and other sciences to mathematics, the design process and technology; and

   c. The historical development of scientific concepts and scientific reasoning.

7. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

8. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-4~~3~~40. Science - Earth science.

The program in Earth science shall ensure that the candidate demonstrates the following competencies:

1. Understanding of the knowledge, skills, and processes of the four core science disciplines as defined in the Virginia Science Standards of Learning and how these provide a sound foundation for teaching Earth science.

2. Understanding of the nature of science and scientific inquiry, including the:

   a. Function of research design and experimentation;

   b. Role and nature of the theory in explaining and predicting events and phenomena; ~~and~~

   ~~c. Role of observation, measurements, data, and evidence in verifying and validating scientific concepts and principles.~~

   c. Practices required to provide empirical answers to research questions, including data collection and analysis, modeling, augmentation with evidence, and constructing explanations;

   d. Reliability of scientific knowledge and its constant scrutiny and refinement;

   e. Self-checking mechanisms used by science to increase objectivity including peer review; and

   f. Assumptions, influencing conditions, and limits of empirical knowledge.

3. Understanding of the knowledge, skills, and practices ~~processes~~ for teaching laboratory science, including the ability to:

   a. Design instruction reflecting the goals of the Virginia Science Standards of Learning;

   ~~b. Conduct research projects and experiments;~~

b~~c~~. Implement laboratory safety rules/procedures and ensure that students take appropriate safety precautions;

c. Conduct research projects and experiments including applications of the design process and technology;

d. Conduct systematic field investigations using the school grounds, the community, and regional resources;

e~~d~~. Organize key Earth science content, skills and practices into meaningful units of instruction~~;~~ that actively engage students in learning

f~~e~~. Design ~~Adapt~~ instruction to meet the needs of diverse learners using a variety of techniques;

g~~f~~. Evaluate ~~student achievement,~~ instructional materials and teaching practices; ~~and~~

h. Conduct formative and summative assessments of student learning;

i~~g~~. Incorporate instructional technology to enhance student performance~~.~~; and

j. Ensure student competence in Earth science.

4. Understanding of the content, processes, and skills of Earth science, equivalent to an undergraduate degree in geology (or a related area), with course work in structural geology, paleontology, petrology, oceanography, meteorology, and astronomy/space science.

5. Understanding of basic physics, chemistry (including organic chemistry), biology, and mathematics to ensure:

   a. The placement of Earth science in an appropriate interdisciplinary context;

   b. The ability to teach the processes and ~~organizing~~ crosscutting concepts common to the natural and physical sciences; ~~and~~

   c. The application of key principles in Earth science to solve practical problems; and

   ~~c. Student achievement in Earth science.~~

   d. A “systems” understanding of the natural world.

6. Understanding of the contributions and significance of Earth science, including:

   a. Its social, ~~and~~ cultural, and economic significance;

b. The relationship of Earth science and other sciences to mathematics, the design process, and technology; and

c. The historical development of scientific concepts and scientific reasoning.

7. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

8. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-44~~5~~0. Science - physics.

The program in physics shall ensure that the candidate demonstrates the following competencies:

1. Understanding of the knowledge, skills, and processes of the four core science disciplines as defined in the Virginia Science Standards of Learning and how these provide a sound foundation for teaching physics.

2. Understanding of the nature of science and scientific inquiry, including the

   a. Function of research design and experimentation;

   b. Role and nature of the theory in explaining and predicting events and phenomena; ~~and~~

   ~~c. Role of observation, measurements, data, and evidence in verifying and validating scientific concepts and principles.~~

   c. Practices required to provide empirical answers to research questions, including data collection and analysis, modeling, augmentation with evidence, and constructing explanations;

   d. Reliability of scientific knowledge and its constant scrutiny and refinement;

   e. Self-checking mechanisms used by science to increase objectivity including peer review; and

   f. Assumptions, influencing conditions, and limits of empirical knowledge.

3. Understanding of the knowledge, skills, and processes for teaching laboratory science, including the ability to:

a. Design instruction reflecting the goals of the Virginia Science Standards of Learning;

~~b. Conduct research projects and experiments;~~

b~~c~~. Implement laboratory safety rules/procedures and ensure that students take appropriate safety precautions;

c. Conduct research projects and experiments including applications of the design process and technology;

d. Conduct systematic field investigations using the school grounds, the community, and regional resources;

e~~d~~. Organize key physics content, skills and practices into meaningful units of instruction~~;~~ that actively engage students in learning;

f~~e~~. Design ~~Adapt~~ instruction to meet the needs of diverse learners using a variety of techniques;

g~~f~~. Evaluate ~~student achievement,~~ instructional materials and teaching practices; ~~and~~

h. Conduct formative and summative assessments of student learning;

i~~g~~. Incorporate instructional technology to enhance student performance~~.~~; and

j. Ensure student competence in physics.

4. Understanding of content, processes, and skills of physics, equivalent to an undergraduate degree in physics, with course work in mechanics, electricity and magnetism, ~~and~~ optics, and Modern physics.

5. Understanding of basic Earth science, chemistry (including organic chemistry), biology, ~~the Earth sciences,~~ and mathematics ~~(including statistics and calculus)~~ to ensure:

   a. The placement of physics in an appropriate interdisciplinary context;

   b. The ability to teach the processes and ~~organizing~~ crosscutting concepts common to the natural and physical sciences; and

   ~~c. Student achievement in physics.~~

   c. A “systems” understanding of the natural world.

6. Understanding of the contributions and significance of physics, including:

a. Its social, ~~and~~ cultural, and economic significance;

b. The relationship of physics and other sciences to mathematics, the design process, and technology; and

c. The historical development of scientific concepts and scientific reasoning.

7. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

8. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-4~~7~~60. Special education adapted curriculum K-12.

A. The program in special education is designed to ensure through coursework and field experiences in a variety of settings that the candidate has demonstrated the following core competencies to prepare children and youth for participation in the general education curriculum and within the community to the maximum extent possible. The candidate ~~shall~~ also shall complete the competencies in at least one of the endorsement areas of Special Education Adapted Curriculum K-12, in addition to those required under professional studies, including reading and language acquisition.

1. Foundations. Characteristics, legal and medical aspects.

a. Knowledge of the foundation for educating students with disabilities, including:

(1) Historical perspectives, models, theories, philosophies, and trends that provide the basis for special education practice;

(2) Characteristics of children and youth with disabilities relative to age, varying levels of severity, and developmental differences manifested in cognitive, linguistic, physical, psychomotor, social, or emotional functioning;

(3) Normal patterns of development (i.e., physical, psychomotor, cognitive, linguistic, social, emotional development and their relationship to the various disabilities);

(4) Medical aspects of disabilities;

(5) The dynamic influence of the family system and cultural/environmental milieu and related issues pertinent to the education of students with disabilities;

(6) Educational implications of the various disabilities; and

(7) Understanding of ethical issues and the practice of accepted standards of professional behavior.

b. An understanding and application of the legal aspects, regulatory requirements, and expectations associated with identification, education, and evaluation of students with disabilities, including:

(1) Legislative and judicial mandates related to education and special education (e.g., the Individuals with Disabilities Education Act, §504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, the No Child Left Behind Act of 2001, etc.);

(2) Current regulations governing special education (e.g., individualized education program (IEP) development; disciplinary practices, policies, and procedures; and alternative placements/programs in schools); and

(3) "Rights and responsibilities" of parents, students, teachers, and schools as they relate to individuals with disabilities and disability issues.

2. Assessments and ~~management of instruction and behavior~~ evaluation.

~~a.~~ An understanding and application of the foundation of assessment and evaluation related to best special education practice, including:

(1) Ethical issues and responsibilities in the assessment of individuals with disabilities;

(2) Procedures for screening, prereferral, referral, and eligibility determinations;

(3) Factors that may influence assessment findings such as cultural, behavioral, and learning diversity;

(4) A general knowledge of measurement theory and practice, including validity, reliability, norming, bias, sensitivity and specificity;

~~(4)~~(5) Administration, scoring, and interpretation of commonly used individual and group instruments, including norm-referenced, criterion-referenced, and curriculum-based measures as well as task analysis, observation, portfolio, and environmental assessments; ~~and~~

~~(5)~~(6) Synthesis and interpretation of assessment findings for eligibility, program planning, and program evaluation decisions~~.~~; and

(7) Knowledge of the Virginia Accountability System, assessment options and procedures for participation for students with disabilities.

~~b. An understanding and application of service delivery, curriculum, and instruction of students with disabilities, including:~~

~~(1) Classroom organization and curriculum development;~~

~~(2) Scope and sequence of the general education curriculum;~~

~~(3) Complex nature of language acquisition and reading (reading competencies in Professional studies requirements): Reading, special education language acquisition and reading: Skills in this area shall be designed to impart a thorough understanding of the complex nature of language acquisition and reading to include: phonemic awareness, an understanding of sound/symbol relationships, explicit phonics instruction, syllables, phonemes, morphemes, decoding skills, word attack skills, and a knowledge of how phonics, syntax, and semantics interact. Additional skills shall include proficiency in a wide variety of comprehension strategies, as well as the ability to foster appreciation of a variety of literature and independent reading;~~

~~(4) Complex nature of numeracy acquisition and the sequential nature of mathematics;~~

~~(5) Alternative ways to teach content material including curriculum adaptation and curriculum modifications;~~

~~(6) Procedures to develop, provide, and evaluate instruction consistent with students' individual needs;~~

~~(7) Strategies to promote successful integration of students with disabilities with their nondisabled peers;~~

~~(8) Use of technology to promote student learning; and~~

~~(9) Structure and organization of general education classrooms and other instructional settings representing the continuum of special education services (to include field experiences).~~

~~d. The ability to prepare students and work with families to promote successful student transitions throughout the educational experience to include postsecondary training, employment, and independent living that addresses an understanding of long-term planning, career development, life skills, community experiences and resources, self-advocacy and self-determination, guardianship, and legal considerations.~~

3. Management of instruction and behavior

~~2c~~a. An understanding and application of classroom and behavior management techniques and individual interventions, including techniques that:

(1) Promote emotional well-being and teach and maintain behavioral conduct and skills consistent with norms, standards, and rules of the educational environment;

(2) Address diverse approaches and classroom organization based upon behavioral, cognitive, affective, social and ecological theory and practice;

(3) Provide positive behavioral supports; and

(4) Are based on functional assessment of behavior.

~~3~~4. Collaboration.

a. Skills in consultation, case management, and collaboration, including:

(1) Coordination of service delivery with related service providers, general educators, and other professions in collaborative work environments to include:

(a) Understanding the Standards of Learning (SOL), the structure of the curriculum, and accountability systems across K-12;

(b) Understanding and assessing the organization and environment of general education classrooms across the K-12 setting;

(c) Implementation of collaborative models, including collaborative consultation, co-teaching with co-planning, and student intervention teams;

(d) Procedures to collaboratively develop, provide, and evaluate instructional and behavioral plans consistent with students' individual needs;

(e) Understanding the roles and responsibilities of each member of the collaborative team; and

(f) Knowledge and ~~A~~application of effective communication strategies and culturally responsive strategies with a variety of stakeholders in the collaborative environment.

b. Training, managing, and monitoring paraprofessionals;

c. Involvement of families in the education of their children with disabilities;

d. Understanding the standards of professionalism;

e. Cooperating with community agencies and other resource providers; and

f. Models and strategies for promoting students' self-advocacy skills.

B. The program in special education adapted curriculum K-12 shall ensure through coursework and field experiences in a variety of settings that the candidate seeking endorsement in special education adapted curriculum has the special education core competencies and the specific competency requirements specified in this section. The candidate shall demonstrate the following competencies to prepare children and youth to acquire the functional, academic, and community living skills necessary to reach an appropriate level of independence and be assessed in progress toward an aligned curriculum while participating in programs with nondisabled peers to the fullest extent possible:

1. Characteristics.

a. Demonstrate knowledge of the definitions, characteristics, including medical and health conditions, learning and behavioral support needs of students with disabilities (K-12), whose cognitive impairments or adaptive skills require adaptations to the general curriculum, and functional skills are significantly different from typically developing peers, and therefore require adaptations to the general curriculum for an appropriate education, including, but not limited to, students with:

~~(2)~~(1) Autism spectrum disorders;

~~(1)~~(2) ~~Moderate to severe mental retardation or~~ ~~d~~Developmental delay;

(3) Intellectual disability;

(4) Traumatic brain injury; and

~~(3)~~(5) Multiple disabilities, including sensory, deaf-blindness, speech-language, orthopedic and/or health impairments as an additional disability to those referenced above.

b. Knowledge of characteristics shall include:

(1) Medical, sensory needs, and position and handling needs of children with multiple disabilities;

(2) Speech and language development and communication and impact on educational, behavioral and social interactions;

(3) Impact of disability on self-determination and self-advocacy skills; and

(4) Historical and legal perspectives, models, theories, philosophies, and trends related to specific student populations.

2. Individualized ~~e~~Education ~~p~~Program ~~implementation.~~ Development and implementation.

a. Demonstrate knowledge of the eligibility process, legal and regulatory requirements for IEP development including timelines, components, team composition, roles and responsibilities.

~~a~~b. Apply knowledge of content standards, assessment and evaluation throughout the K-12 grade levels to:

(1) Construct, use, and interpret a variety of standardized and nonstandardized data collection techniques, such as task analysis, observation, portfolio assessment and other curriculum-based measures;

(2) Make decisions about student progress, instruction, program, modifications, ~~accommodations~~ adaptations, placement, and teaching methodology and transitional services and activities for students with disabilities who are accessing the general education curriculum and the standards of learning through an aligned curriculum;

(3) Be able to write educationally relevant IEP goals and objectives that address self-care and/or self-management of student physical, sensory, and/or medical needs that also enhances academic success in the adapted curriculum.

~~(3) Demonstrate the use of assessment, evaluation, and other information to develop and implement individual educational planning and group instruction with students with disabilities in an aligned curriculum across the K-12 grade levels, including:~~

~~(a) Functional behavior assessment;~~

~~(b) behavioral intervention plans incorporating positive behavioral supports;~~

~~(c) Least restrictive environment and inclusion models;~~

~~(d) General education curriculum adaptation and modification~~

~~(e) IEP implementation linking to standards of learning general curriculum;~~

~~(f) Transition between grade levels, settings, and environments;~~

~~(g) Communication methods and systems;~~

~~(h) Assistive technology applications and instruction;~~

~~(i) Community integration;~~

~~(j) Vocational skill development;~~

~~(k) Instructional strategies;~~

~~(l) Knowledge of community service systems; and~~

~~(m) Essential life skills for independent home and community living.~~

3. Instructional methods and strategies for the adapted curriculum.

An understanding and application of service delivery, curriculum, and instruction of students with disabilities, including:

(1) Curriculum development that includes a scope and sequence, lesson plans, instructional methods and assessments that are based on grade level content standards;

(2) Foundational knowledge of reading and writing that includes an understanding of the complex nature of language acquisition and reading (reading competencies in professional studies requirements). Skills in this area include: phonemic awareness, an understanding of sound/symbol relationships, explicit phonics instruction, syllables, phonemes, morphemes, decoding skills, word attack skills, and knowledge of how phonics, syntax, and semantics interact. Additional skills shall include proficiency in a wide variety of comprehension strategies and writing, as well as the ability to foster appreciation of a variety of literature and independent reading; and reading and writing across the content areas.

(3) Foundational knowledge of the complex nature of numeracy acquisition and the sequential nature of mathematics including mathematical concepts, mathematical thinking, calculation and problem-solving;

(4) Alternative ways to teach content material including curriculum adaptation and curriculum modifications;

(5) Procedures to develop, provide, and evaluate instruction consistent with students' individual needs;

(6) Strategies to promote successful integration of students with disabilities with their nondisabled peers;

(7) Use of technology to promote student learning;

(8) Structure and organization of general education classrooms and other instructional settings representing the continuum of special education services (to include field experiences);

(9) Demonstrate the ability to implement individual educational planning and group instruction with students with disabilities who are accessing the general education curriculum and Standards of Learning through an aligned curriculum across the K-12 grade levels, including the ability to:

(a) Identify and apply differentiated instructional methodologies including systematic instruction, multisensory approaches, learning cognitive strategies, diverse learning styles, and technology use;

(b) Implement a blended curriculum that includes teaching academic skills using the aligned standards of learning and incorporating functional and essential life skills into instruction;

(c) Provide explicit instruction of reading, writing and mathematics at appropriate developmental/grade level in a cumulative manner to students with disabilities accessing the general education curriculum through an aligned curriculum;

(d) Conduct and analyze results of functional behavior assessment;

(e) Implement behavioral intervention plans incorporating positive behavioral supports;

(f) Promote the potential and capacity of individual students to meet high functional, academic, behavioral, and social expectations;

(g) Design alternative ways to teach content material including modifying and adapting the general education curriculum;

(h) Develop appropriate transition between grade levels, setting, and environments;

(i) Use assistive and instructional technology including augmentative and alternative communication methods and systems;

(j) Implement and evaluate group management technique and individual interventions that teach and maintain emotional, behavioral and social skills;

(k) Implement and monitor IEP specified modifications and adaptations within the general education classroom; and

(l) Integrate students in the community through collaboration with community service systems.

4. Individualized supports and specialized care of students with significant disabilities.

a. An understanding and application of service delivery for students with significant disabilities and their unique care needs, including:

(1) Ability to identify the physical, sensory, and/or health/medical needs of students with significant disabilities and understand how these needs impact the educational program including:

(a) Understanding of typical physical development of children and application of this knowledge in developing learning experiences for students with significant disabilities;

(b) Basic understanding of the most common medical diagnoses associated with students with significant disabilities and the impact on their functioning in school and community settings;

(c) Understanding of the role muscle tone plays in the positioning and handling of students and familiarity with common positioning equipment used in the classroom; and

(d) Understanding of alternative and augmentative communication systems and the ability to identify an appropriate communication system based on the needs of the student.

b. Understanding of the roles and responsibilities of related and support staff working in a collaborative setting and the process and procedures related to initiating a related service request.

c. Ability to develop lesson plans that blend and incorporate the academic, functional and behavioral goals and objectives, while integrating positioning, self-help, feeding, grooming, sensory, and toileting programs into the instructional delivery.

~~3.~~5. Transitioning.

a. Demonstrate the ability to prepare students and work with families to provide successful student transitions throughout the educational experience to include postsecondary education, training, employment, and independent living that addresses an understanding of long-term planning, age appropriate transition assessments, career development, life skills, community experiences and resources,

~~self-advocacy~~, and self-determination to include goal setting, decision making, problem-solving, self-awareness and self-advocacy, guardianship and other legal considerations.

(1) Skills in consultation, case management, and collaboration for students with varying degrees of disability severity.

(a) Coordinate service delivery with general educators including career and technical educators and school counselors, related services providers, and other providers;

(b) Awareness of community resources agencies and strategies to interface with community agencies when developing and planning IEPs;

(c) Knowledge of related services and accommodations that pertain to postsecondary transition~~s~~ that increase student access to postsecondary education and community resources; and

(d) Ability to coordinate and facilitate meetings involving parents, students, outside agencies, and administrators. This is to include the understanding of consent to share information, including confidentiality and disability disclosure.

(2) Understand the difference between entitlement and eligibility for agency services as students move to the adult world, including a basic understanding of Social Security Income benefits planning, work incentive, Medicaid, ~~and~~ community independent living, and waivers.

(3) Recognize uses of technology and seek out technology at postsecondary settings that shall aid the student in their education, work, and independent living.

(4) Recognize and plan for individual student potential and their capacity to meet high academic, behavioral, and social expectations and the impact of academic and social success on personal development.

(5) Knowledge of person-centered planning strategies to promote student involvement in planning.

(6) Knowledge of generic skills that lead to success in school, work and community, including time management, preparedness, social interactions, and communication skills.

(7) Understand social skill development and the unique social skills deficits and challenges associated with disabilities:

(a) Assesses social skill strengths and needs;

(b) Plans and uses specialized social skills strategies.

(8) Knowledge of use and implementation of vocational assessments to encourage and support students' ~~self~~-advocacy and self-determination skills.

(9) Knowledge of legal issues surrounding age of majority and guardianship.

(10) Knowledge of graduation requirements, diploma options and legal issues surrounding age of majority and guardianship.

6. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

7. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

C. Completion of supervised classroom experiences with students with disabilities and an adapted curriculum K-12.

8VAC20-542-4~~9~~70. Special education blindness/visual impairments preK-12.

The program in special education visual impairments preK-12 is designed to ensure through course work and field experiences in a variety of settings that the candidate has demonstrated the following competencies:

1. Understanding of the characteristics of individuals with disabilities, including:

a. Characteristics of children and youth with disabilities, and in particular, with blindness or visual impairment: developmental and cognitive;

b. Language development and the effects of blindness, visual impairment, and other disabling conditions and cultural and linguistic diversity on language development; and

c. Characteristics of individuals with visual impairments, including impact of visual impairment on ~~infants' and children's growth and~~ children's social and emotional development, ~~child and adolescent emotional and social development,~~ and family interaction patterns~~.~~; and

d. Understanding of psychosocial aspects of visual impairment and cultural identity.

2. Understanding of the foundation of the legal aspects associated with students with disabilities and students with visual impairments, including:

a. Legislative and judicial mandates related to education and special education;

b. The Individuals with Disabilities Education Act (IDEA), §504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act;

c. Legal decisions related to persons with disabilities;

d. Current regulations and procedures governing special education, including individualized education program (IEP) development, individualized family service plan (IFSP), and transition services; and

e. Disciplinary practices, policies and procedures and alternative placements/programs in schools.

3. Understanding of the foundation of assessment and evaluation with an emphasis on individuals with visual impairments, including:

a. Administering, scoring, and interpreting assessments, including norm-referenced, criterion-referenced, and curriculum-based individual and group assessments;

b. Administration and interpretation of a functional vision assessment (FVA), learning media assessment (LMA), and assistive technology assessment and assessment in the areas of the expanded core curriculum (ECC).

~~b~~c. Interpreting assessments for eligibility, placement, and program ~~uses~~ decisions and to inform instruction;

~~c~~d. Techniques to collect, record and analyze information;

~~d~~e. Diagnostic instruction using ongoing assessment data;

~~e~~f. Techniques for recognizing capacity and diversity and its influence on student assessment and evaluation;

~~f~~g. Using data from student program evaluation to inform curriculum development, instructional practice, and accommodations; and

~~g~~h. Low vision practices and procedures, including ~~that include~~ assessment and instructional programming for functional vision.

4. Understanding of service delivery, classroom and behavior management, and instruction for students who are blind and visually impaired, including:

a. The application of current research and evidence-based practice;

b. Classroom organization and curriculum development;

c. Curriculum adaptations and accommodations;

d. The development of language/literacy skills;

e. The use of technology in teaching, and in instructing students to use assistive technologies to promote learning and to provide access to the general education curriculum;

f. Classroom management, including behavior support systems and individual planning;

g. Methods and procedures for teaching students with visual impairments;

h. Instructional programming and modifications of curriculum to facilitate inclusion ~~integration~~ of students with blindness and visual impairment in ~~disabilities~~ programs and services with sighted and typically developing peers ~~without disabilities~~;

i. Individual and group behavior management techniques;

j. Career and vocational aspects of individuals with disabilities, including persons with visual impairments, ~~in society,~~ including knowledge of careers, vocational opportunities, and transition from school to work; and

k. Social and recreational skills and resources for individuals with visual impairments, including methods and materials for assessing and teaching activities of daily living.

5. Understanding of consultation, case management, and collaboration including:

a. Coordinating service delivery with other professionals in collaborative work environments;

b. Training, managing, and monitoring paraprofessionals;

c. Involving families in the education of their children with blindness or visual impairment ~~disabilities; and~~

d. Implementation of collaborative models, including collaborative consultation, co-teaching, and student intervention teams; and

~~d~~e. Interfacing with community agencies and resources.

6. Understanding of the foundations of Braille reading and writing, including:

a. Teaching reading and writing of grade 2 Braille on both a Braille writer and a "slate and stylus"; and

b. Knowledge of other codes, including Nemeth, foreign language code, music code, and computer Braille.

7. Understanding of anatomy, physiology, and diseases of the eye and the educational implications.

8. Understanding principles and how to instruct in human guide techniques and pre-cane orientation and mobility instruction.

~~8~~9. Understanding of the standards of professionalism, including ethical and professional practice.

~~9~~10. Completion of supervised classroom experiences at the elementary and secondary levels with students who have visual impairments, to include those with blindness and low vision, and with individuals who may have additional disabilities.

11. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

12. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-4~~6~~80. Special education ~~hearing impairments~~ deaf and hard of hearing preK-12.

The program in special education ~~hearing impairments~~ deaf and hard of hearing preK-12 is designed to ensure through course work and field experiences in a variety of settings that the candidate has demonstrated the following competencies:

1. Understanding of the characteristics of individuals with disabilities, including the following:

a. Characteristics of children and youth with disabilities: developmental and cognitive;

b. Characteristics of individuals ~~with hearing impairments~~ who are deaf or hard of hearing, including socio-cultural influences and possible health- or genetically-related problems; and

c. Foundations of the education and culture of persons ~~with hearing impairments~~ who are deaf or hard of hearing.

2. Understanding of the foundation of the legal aspects associated with students with disabilities and students ~~with hearing impairments~~ who are deaf or hard of hearing including:

   a. Legislative and judicial mandates related to education and special education;

   b. The Individuals with Disabilities Education Act (IDEA), § 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act;

   c. Legal decisions related to persons with disabilities;

   d. Current regulations and procedures governing special education, including individualized education program (IEP) development, individualized family service plan (IFSP), and transition services; and

   e. Disciplinary practices, policies and procedures and alternative placements/programs in schools.

3. Understanding of the foundation of assessment and evaluation with an emphasis on individuals who are ~~hearing impaired~~ deaf or hard of hearing, including:

   a. Administering, scoring, and interpreting assessments, including norm-referenced, criterion-referenced, and curriculum-based individual and group assessments;

   b. Interpreting assessment~~s~~ results for eligibility, placement, and to inform instruction (i.e., linking assessment results to classroom interventions) ~~program uses~~

   c. Techniques to collect, record, and analyze information from observing students;

   d. Data-based decision-making skills using assessment data to inform ~~D~~diagnostic instruction; ~~using assessment data~~;

   e. Techniques for recognizing capacity and diversity and its influence on student assessment and evaluation. ~~; and~~

   f~~. Using data from student program evaluation.~~

4. Understanding of service delivery, classroom/behavior management, and instruction, including:

   a. The application of current research in practice;

   b. Classroom organization and curriculum development;

   c. Curriculum adaptations and accommodations;

d. The development of language/literacy skills;

e. The use of technology to promote student learning;

f. Classroom and behavior management, including behavior support systems and individual planning;

g. ~~Methods~~ Evidence-based strategies and procedures for teaching persons who are deaf or hard of hearing ~~with hearing impairments~~;

h. Instructional programming and modifications of curriculum to facilitate ~~integration~~ inclusion of students with disabilities into the continuum of programs and services with peers without disabilities;

i. Strategies to promote successful socialization of students who are deaf or hard of hearing with their hearing peers; and

~~i. Individual and group behavior management techniques;~~ and

j. Career and vocational skill development ~~aspects~~ of individuals with disabilities, including persons ~~with hearing impairments~~ who are deaf or hard of hearing ad who may have additional needs~~, in society~~.

5. Skills in consultation, case management, and collaboration, including:

a. Coordinating service delivery with other professionals in collaborative work environments;

b. Training, managing, and monitoring paraprofessionals;

c. Implementation of collaborative models, including collaborative consultation, co-teaching, and student intervention teams;

~~c~~d. Involving families in the education of their children with disabilities; and

~~d~~e. Cooperating with community agencies and resources.

6. Understanding of speech, hearing, and language~~, and hearing~~ development, including:

a. Speech, hearing and language development and the effects of sensory loss ~~disabling conditions~~ and cultural diversity on typical language development;

~~b. The effects of hearing impairments and cultural diversity on language development;~~

b. How to promote development of listening and spoken language skills in children who are deaf or hard of hearing: how to promote development of American Sign Language skills in children who are deaf or hard of hearing;

c. Anatomy of speech structures, auditory and visual mechanisms, production, transmission and psychophysical characteristics of sound; and

d. General and specific effects of having partial or no hearing ~~impairment~~ on production and reception of speech and on English language development.

7. Understanding of audiology, including:

a. ~~Diagnosis in hearing~~ Diagnostic evaluation, testing procedures, and interpreting audiology reports to inform instruction in and expectations for development of listening and spoken language skills; ~~characteristics of amplification devices and their application to the instructional processes;~~ and

b. Characteristics of ~~I~~individual, group amplification/assistive listening devices ~~systems,~~ (e.g., cochlear implant systems, hearing aids, FM systems, sound field systems, etc.) ~~and other assistive/augmentative communication devices~~ with emphasis on utilization in educational environments.

8. Understanding of communication modalities to include various modalities of communication, including cued speech, speech reading, ~~verbal communication,~~ listening, signed language, and spoken language. ~~and demonstrated proficiency in sign language communication.~~

9. Demonstrated proficiency in expressive and receptive sign language, to include American Sign Language and contact varieties.

~~9~~10. Understanding of the standards for professionalism.

~~10~~11. Completion of supervised classroom experiences at the elementary and secondary levels with students who ~~have hearing impairments~~ are deaf or hard of hearing, including those with additional disabilities.

12. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

13. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-4~~5~~90. Special education early childhood (birth through age 5).

The program in special education early childhood (birth through age five) is designed to ensure through course work and field experiences in a variety of settings that the candidate has demonstrated the following competencies:

1. Understanding of the nature and characteristics of major disabling and at-risk conditions, including:

   a. Trends for service delivery to the birth-through-age-five population;

   b. An overview of early intervention and early childhood special education;

   c. Historical perspective of special education; and

   d. ~~Social development issues.~~Awareness of the issues surrounding cultural and linguistic diversity.

2. Understanding of the foundation of the legal aspects associated with students with disabilities, including:

   a. Legislative and judicial mandates related to education and special education;

   b. The Individuals with Disabilities Education Act (IDEA), § 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act;

   c. Legal decisions related to persons with disabilities;

   d. Current regulations and procedures governing special education to include individualized education program (IEP) development and/or individualized family service plan (IFSP); and

   e. Disciplinary practices, policies and procedures and alternative placements/programs in schools.

3. Knowledge of the selection, administration, and interpretation of formal and informal assessment techniques for young children with disabling and at-risk conditions and their families, including:

   a. Eligibility and diagnosis of disabling and at-risk conditions;

   b. Progress monitoring for growth compared to same age, typically developing peers and/or functioning in environments where same age peers would normally attend (to include, but not limited to, settings that the families choose);

   c. Program development and improvement; and

d. Curriculum-based assessments for instructional planning.

4. Understanding of the methods for providing instructional programs for early intervention, including:

   a. Service delivery options;

   b. Development of individualized education programs (IEPs) and individualized family service plans (IFSPs);

   c. Curriculum development and implementation to ensure developmentally appropriate intervention techniques in the areas of self-help, motor, cognitive, social/emotional, and language; and

   d. Service delivery to support success and functionality in all settings where same age, typically developing peers would be located.

5. Understanding of teaching social and emotional skills to assist with behavior management and the application of principles of learning and child development to individual and group management using a variety of techniques that are appropriate to the age of that child.

6. Understanding of speech and language development and intervention methods, including the effects of disabling and at-risk conditions on young children, including:

   a. Developmental stages of language acquisition;

   b. Cultural and linguistic diversity;

   c. English language learner language acquisition;

   d. Use of language to get needs and wants met and for social interaction;

7. Understanding of and experiences with the medical aspects of young children with disabling and at-risk conditions and the management of neuro-developmental and motor disabilities, including:

   a. Emergency care and the role of health care professionals in the lives of individuals with disabilities~~.~~; and

   b. Use and effects of medications.

8. Skills in consultation, case management, collaboration, coaching, mentoring, and co-teaching, including techniques in working with children, families, educators, related service providers, and other human service professionals that include:

a. Service coordination;

b. Interagency coordination;

c. ~~Integration with nondisabled peers;~~ Inclusive practices;

d. Transition facilitation; and

e. Training, managing, and monitoring paraprofessionals.~~9. Understanding of normal child growth and development from birth through age five.~~

~~10~~9. Understanding of the theories and techniques of family-centered intervention, including:

a. ~~Multicultural issues~~ Cultural and linguistic differences influences; and

b. Family issues.

~~11~~10. Understanding of the standards of professionalism.

~~12~~11. Completion of supervised experiences at the ~~preschool~~ early childhood level in a variety of settings, including but not limited to early intervention, home-based, school-based, and community-based settings.

12. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

13. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-~~48~~500. Special education general curriculum K-12.

A. The program in special education is designed to ensure through course work and field experiences in a variety of settings that the candidate has demonstrated the following core competencies to prepare children and youth for participation in the general education curriculum and within the community to the maximum extent possible. The candidate also shall ~~also~~ complete the competencies in at least one of the endorsement areas of Special Education General Curriculum K-12, in addition to those required under professional studies, including reading and language acquisition.

1. Foundations - Characteristics, legal and medical aspects.

a. Knowledge of the foundation for educating students with disabilities, including:

(1) Historical perspectives, models, theories, philosophies, and trends that provide the basis for special education practice;

(2) Characteristics of children and youth with disabilities relative to age, varying levels of severity, and developmental differences manifested in cognitive, linguistic, physical, psychomotor, social, or emotional functioning;

(3) Normal patterns of development (i.e., physical, psychomotor, cognitive, linguistic, social, emotional development and their relationship to the various disabilities);

(4) Medical aspects of disabilities;

(5) The dynamic influence of the family system and cultural/environmental milieu and related issues pertinent to the education of students with disabilities;

(6) Educational implications of the various disabilities; and

(7) Understanding of ethical issues and the practice of accepted standards of professional behavior.

b. An understanding and application of the legal aspects, regulatory requirements, and expectations associated with identification, education, and evaluation of students with disabilities, including:

(1) Legislative and judicial mandates related to education and special education (e.g., the Individuals with Disabilities Education Act, §504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, the No Child Left Behind Act of 2001, etc.);

(2) Current regulations governing special education (e.g., individualized education program (IEP) development; disciplinary practices, policies, and procedures; and alternative placements/programs in schools); and

(3) "Rights and responsibilities" of parents, students, teachers, and schools as they relate to individuals with disabilities and disability issues.

2. Assessments and evaluation. ~~management of instruction and behavior.~~

~~a.~~ An understanding and application of the foundation of assessment and evaluation related to best special education practice, including:

(1) Ethical issues and responsibilities in the assessment of individuals with disabilities;

(2) Procedures for screening, pre-referral, referral, and eligibility determinations;

(3) Factors that may influence assessment findings such as cultural, behavioral, and learning diversity;

(4) A general knowledge of measurement theory and practice, including validity, reliability, norming, bias, sensitivity and specificity;

~~(4)~~(5) Administration, scoring, and interpretation of commonly used individual and group instruments, including norm-referenced, criterion-referenced, and curriculum-based measures as well as task analysis, observation, portfolio, and environmental assessments; ~~and~~

~~(5)~~(6) Synthesis and interpretation of assessment findings for eligibility, program planning, and program evaluation decisions~~.~~; and

(7) Knowledge of the Virginia Accountability System, assessment options and procedures for participation for students with disabilities.

~~b. An understanding and application of service delivery, curriculum, and instruction of students with disabilities, including:~~

~~(1) Classroom organization and curriculum development;~~

~~(2) Scope and sequence of the general education curriculum;~~

~~(3) Complex nature of language acquisition and reading (reading competencies in professional studies requirements): Reading, special education language acquisition and reading: Skills in this area shall be designed to impart a thorough understanding of the complex nature of language acquisition and reading to include: phonemic awareness, an understanding of sound/symbol relationships, explicit phonics instruction, syllables, phonemes, morphemes, decoding skills, word attack skills, and a knowledge of how phonics, syntax, and semantics interact. Additional skills shall include proficiency in a wide variety of comprehension strategies, as well as the ability to foster appreciation of a variety of literature and independent reading;~~

~~(4) Complex nature of numeracy acquisition and the sequential nature of mathematics;~~

~~(5) Alternative ways to teach content material including curriculum adaptation and curriculum modifications~~

~~(6) Procedures to develop, provide, and evaluate instruction consistent with students' individual needs;~~

~~(7) Strategies to promote successful integration of students with disabilities with their nondisabled peers;~~

~~(8) Use of technology to promote student learning; and~~

~~(9) Structure and organization of general education classrooms and other instructional settings representing the continuum of special education services (to include field experiences).~~

~~c~~3. Management of instruction and behavior.

An understanding and application of classroom and behavior management techniques and individual interventions, including techniques that:

(1) Promote emotional well-being and teach and maintain behavioral conduct and skills consistent with norms, standards, and rules of the educational environment;

(2) Address diverse approaches to classroom organization and set-up based upon behavioral, cognitive, affective, social and ecological theory and practice;

(3) Provide positive behavioral supports; and

(4) Are based on functional assessment of behavior.

~~d. The ability to prepare students and work with families to promote successful student transitions throughout the educational experience to include postsecondary training, employment, and independent living that addresses an understanding of long-term planning, career development, life skills, community experiences and resources, self-advocacy and self-determination, guardianship, and legal considerations.~~

~~3~~4. Collaboration.

a. Skills in consultation, case management, and collaboration, including:

(1) Coordination of service delivery with related service providers, general educators, and other professions in collaborative work environments to include:

(a) Understanding the Standards of Learning (SOL), the structure of the curriculum, and accountability systems across K-12;

(b) Understanding and assessing the organization and environment of general education classrooms across the K-12 setting;

(c) Implementation of collaborative models, including collaborative consultation, co-teaching with co-planning, and student intervention teams;

(d) Procedures to collaboratively develop, provide, and evaluate instructional and behavioral plans consistent with students' individual needs;

(e) Understanding the roles and responsibilities of each member of the collaborative team; and

(f) Knowledge and ~~A~~application of effective communication strategies and culturally responsive strategies with a variety of stakeholders in the collaborative environment.

b. Training, managing, and monitoring paraprofessionals;

c. Involvement of families in the education of their children with disabilities;

d. Understanding the standards of professionalism;

e. Cooperating with community agencies and other resource providers; and

f. Models and strategies for promoting students' self-advocacy skills.

B. The program in special education general curriculum K-12 shall ensure through coursework and field experiences in a variety of settings that the candidate seeking endorsement in special education general curriculum K-12 has the special education core competencies and the specific competency requirements specified in this section.

1. Characteristics.

a. Demonstrate knowledge of definitions, characteristics, and learning and behavioral support needs of students with disabilities~~,~~ whose cognitive and functional skills are not significantly different from typically developing peers and therefore access the general education curriculum for an appropriate education, ~~who are accessing the general education curriculum at the elementary, middle, and high school levels,~~ including but not limited to, students with:

~~(5)~~(1) Autism spectrum disorder;

(2) Deaf-blindness;

~~(4)~~(3) Developmental delay;

~~(2)~~(4) Emotional ~~disturbance~~ disability;

(5) Hearing impairment (or Deaf and Hard of Hearing);

~~(3)~~(6) ~~Mental retardation;~~Intellectual disability;

~~(1)~~(7) Learning disabilit~~ies~~y;

(8) Multiple disabilities;

(9) Orthopedic impairment;

~~(6)~~(10) Other health ~~impaired~~ impairment;

(11) Speech-language impairment;

~~(7)~~(12) Traumatic brain injury; and/or

(13) Visual impairment (including Blindness).

b. Knowledge of characteristics shall include:

(1) Age-span/developmental issues;

(2) Levels of severity;

(3) Cognitive functioning;

(4) Language development;

(5) Emotional and behavioral adjustment;

(6) Social development;

(7) Medical aspects; and

(8) Cultural/ethnic and socioeconomic factors.

2. Individualized education program development and implementation.

a. Demonstrate knowledge of the eligibility process, legal and regulatory requirements for IEP development, including timelines, components, team composition, roles and responsibilities.

~~a~~b. Apply knowledge of content standards, assessment, and evaluation throughout the K-12 grade levels to:

(1) Construct, use, and interpret a variety of standardized and nonstandardized data collection techniques, such as task analysis, observation, portfolio assessment and other curriculum-based measures;

(2) Make decisions about student progress, instruction, program, accommodations, placement, ~~and~~ teaching methodology, and transition services and activities for students with disabilities who are accessing the general education curriculum and the Virginia S~~s~~tandards of L~~l~~earning; and

(3) Develop an Individualized Education Program that addresses the academic and functional needs of the student with disabilities in the general education curriculum and meets regulatory requirements.

~~(3) Demonstrate the use of assessment, evaluation, and other information to develop and implement individual educational planning and group instruction with students with disabilities who are accessing the general education curriculum across the K-12 grade levels, including:~~

~~(a) Identify and apply differentiated instructional methodologies including systematic instruction, multisensory approaches, learning cognitive strategies, study skills, diverse learning styles, and technology use;~~

~~(b) Teach skills and remediate deficits in academic areas at the elementary, middle, and secondary levels;~~

~~(c) Provide explicit instruction of reading and mathematics at appropriate developmental/grade level in a systematic and cumulative manner to students with disabilities who are accessing the general education curriculum;~~

~~(d) Knowledge and understanding of the scope and sequence of the standards of learning at the elementary, middle, and secondary levels;~~

~~(e) Promote the potential and capacity of individual students to meet high academic, behavioral, and social expectations;~~

~~(f) Design alternative ways to teach content material including modifying curriculum in both directive and nondirective methodologies;~~

~~(g) Use assistive and instructional technology in order to access the general education curriculum;~~

~~(h) Implement and evaluate group management techniques and individual interventions that teach and maintain emotional, behavioral and social skills; and~~

~~(i) Implement and monitor IEP specified accommodations within the general education classroom.~~

3. Instructional strategies for reading and writing.

An understanding and application of service delivery, curriculum, and instruction of students with disabilities, including:

(1) Curriculum development that includes a scope and sequence, lesson plans, instructional methods and assessments that are based on the general education curriculum standards of learning at the elementary, middle, and secondary levels;

(2) Foundational knowledge of reading and writing that includes an understanding of the complex nature of language acquisition and reading (reading competencies in professional studies requirements). Skills in this area include: phonemic awareness, an understanding of sound/symbol relationships, explicit phonics instruction, syllables, phonemes, morphemes, decoding skills, word attack skills, and knowledge of how phonics, syntax, and semantics interact. Additional skills shall include proficiency in a wide variety of comprehension, vocabulary and writing strategies, as well as the ability to foster appreciation of a variety of literature, independent reading and reading and writing across content areas;

(3) Alternative ways to teach content material including curriculum adaptation and curriculum modifications;

(4) Procedures to develop, provide, and evaluate instruction consistent with students' individual needs;

(5) Strategies to promote successful integration of students with disabilities with their nondisabled peers;

(6) Use of technology to promote student learning;(7) Structure and organization of general education classrooms and other instructional settings representing the continuum of special education services (to include field experiences); and

(7) Demonstrate the ability to implement individual educational planning and group instruction with students with disabilities who are accessing the general education curriculum across the K-12 grade levels, including the ability to:

(a) Identify and apply differentiated instructional methodologies including systematic instruction, multisensory approaches, learning cognitive strategies, study skills, diverse learning styles, and technology use;

(b) Teach skills and remediate deficits in academic areas at the elementary, middle, and secondary levels;

(c) Provide explicit instruction of reading, and writing at appropriate developmental/grade level in a systematic and cumulative manner to students with disabilities who are accessing the general education curriculum;

(d) Promote the potential and capacity of individual students to meet high academic, behavioral, and social expectations;

(e) Design alternative ways to teach content material including modifying curriculum in both directive and nondirective methodologies;

(f) Use assistive and instructional technology in order to access the general education curriculum;

(g) Implement and evaluate group management techniques and individual interventions that teach and maintain emotional, behavioral and social skills; and

(h) Implement and monitor IEP specified accommodations within the general education classroom.

4. Instructional strategies for mathematics.

An understanding and application of service delivery, curriculum, and instruction of students with disabilities, including:

(1) Curriculum development that includes a scope and sequence, lesson plans, instructional methods and assessments that are based on the general education curriculum standards of learning at the elementary, middle, and secondary levels;

(2) Foundational knowledge of the complex nature of numeracy acquisition and nature of mathematics including mathematical concepts, mathematical thinking, mathematics vocabulary, calculation and problem-solving;

(3) Alternative ways to teach content material including curriculum adaptation and curriculum modifications;

(4) Procedures to develop, provide, and evaluate instruction consistent with students' individual needs;

(5) Strategies to promote successful integration of students with disabilities with their nondisabled peers;

(6) Use of technology to promote student learning;

(7) Structure and organization of general education classrooms and other instructional settings representing the continuum of special education services (to include field experiences);

(8) Demonstrate the ability to implement individual educational planning and group instruction with students with disabilities who are accessing the general education curriculum across the K-12 grade levels, including the ability to:

(a) Identify and apply differentiated instructional methodologies including systematic instruction, multisensory approaches, learning cognitive strategies, study skills, diverse learning styles, and technology use;

(b) Teach skills and remediate deficits in academic areas at the elementary, middle, and secondary levels;

(c) Provide explicit instruction in mathematics at appropriate developmental/grade level in a systematic and cumulative manner to students with disabilities who are accessing the general education curriculum;

(d) Promote the potential and capacity of individual students to meet high academic, behavioral, and social expectations;

(e) Design alternative ways to teach content material including modifying curriculum in both directive and nondirective methodologies;

(f) Use assistive and instructional technology in order to access the general education curriculum;

(g) Implement and evaluate group management techniques and individual interventions that teach and maintain emotional, behavioral and social skills; and

(h) Implement and monitor IEP specified accommodations within the general education classroom.

~~3~~5. Transitioning.

a. Demonstrate the ability to prepare students and work with families to provide successful student transitions throughout the educational experience to include postsecondary education**,** training, employment, and independent living that addresses an understanding of long-term planning, transition assessments, career

development, life skills, community experiences and resources, self-advocacy, and self-determination, guardianship and legal considerations.

(1) Skills in consultation, case management, and collaboration for students with varying degrees of disability severity;

(a) Coordinate service delivery with general educators, related service providers, and other providers;

(b) Awareness of community resources agencies and strategies to interface with community agencies when developing and planning IEPs;

(c) Knowledge of related services and accommodations that pertain to postsecondary transitions that increase student access to postsecondary education and community resources;

(d) Ability to coordinate and facilitate meetings involving parents, students, outside agencies, and administrators.

(2) Understand the difference between entitlement and eligibility for agency services as students move to the adult world including a basic understanding of Social Security Income benefits planning, work incentive, Medicaid, and community independent living.

(3) Recognize uses of technology and seek out technology at postsecondary settings that shall aid the student in their education, work, and independent living.

(4) Recognize and plan for individual student potential and their capacity to meet high academic, behavioral, and social expectations and the impact of academic and social success on personal development:

(a) Knowledge of person-centered planning strategies to promote student involvement in planning; <u>and</u>

(b) Knowledge of generic skills that lead to success in school, work and community, including time management, preparedness, social interactions, and communication skills.

(5) Understand social skill development and the unique social skills deficits and challenges associated with disabilities:

(a) Assesses social skill strengths and needs; <u>and</u>

(b) Plans and uses specialized social skills strategies.

(6) Knowledge of use and implementation of vocational assessments to encourage and support students' self-advocacy and self-determination skills.

(7) Knowledge of graduation requirements, diploma options and legal issues surrounding age of majority and guardianship.

6. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

7. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

C. Completion of supervised classroom experiences with students with disabilities and the general curriculum K-12.

8VAC20-542-510. Special education - general curriculum elementary education K-6 (add-on endorsement).

The program in special education - general curriculum elementary education K-6 (add-on endorsement) shall ensure that the candidate has demonstrated the following competencies. The candidate must:

1. Hold a license issued by the Virginia Board of Education with an endorsement in elementary education (early/primary education preK-3/elementary education preK-6);

2. Have completed competencies in the education of students with disabilities distributed in each of the following areas:

a. Foundations. Characteristics that include knowledge of the foundation for educating students with disabilities; historical, ethical, and legal aspects that include an understanding and application of the federal and state regulatory requirements, and expectations associated with identification, education, and evaluation of students with disabilities.

b. Individualized education program development and implementation. Knowledge of the eligibility process, legal and regulatory requirements of IEP development including timelines, components, team composition, roles and responsibilities. Skills in this area include the ability to apply knowledge of assessment and evaluation throughout the K-12 grade levels to construct, use, and interpret a variety of standardized and nonstandardized data collection techniques; to make decisions about student progress, instructional, program, goal development, accommodations, placement, and teaching methodology for students with disabilities who are accessing the general education curriculum and the standards of learning; and to demonstrate the use of assessment, evaluation, and other information to develop and implement individual educational planning and group

instruction with students with disabilities who are accessing the general education curriculum across the K-12 grade levels.

c. Assessment and evaluation. That includes an understanding and application of the foundation of assessment and evaluation related to best practice in special education; including types and characteristics of assessment, introduction to formal and informal assessment, and the use of assessments and other information to determine special education eligibility, service delivery, curriculum, and instruction of students with disabilities~~;~~. Understanding of the current legal and ethical issues related to assessment selection and use including comprehensive evaluation requirements, students with disabilities participation in the state and local accountability systems, assessment options, appropriate grading and testing accommodations and assessment of students from diverse backgrounds.

d. Instructional strategies in reading and writing. An understanding and application of service delivery, curriculum, and instruction of students with disabilities in reading and writing. Knowledge of the general curriculum, English requirements and expectations, and how to provide access to the curriculum based on student characteristics and needs. Ability to assess, interpret data and implement instructional practices to address the identified reading needs of the students. Skills in this area include the ability to identify, understand and implement a range of specialized instructional strategies and research-based interventions that reflect best practice in reading and writing instruction for students with disabilities. Ability to align the instructional practices and intervention with the Standards of Learning and state assessments. Knowledge and ability to utilize current assistive and instructional reading and writing technologies to promote learning and independence for students with disabilities in the general curriculum and the ability to evaluate the effectiveness of the use of the technologies. Ability to develop and use curriculum based and standardized reading and writing assessments to conduct ongoing evaluations of instructional materials and practices to determine effectiveness and assess student needs as it relates to the curriculum design and delivery. Ability to model and directly teach reading and writing instructional strategies in a variety of settings, collaborate and co-teach with general educators to develop and implement instructional practices that meet the needs of students with disabilities in the general curriculum and monitor student progress.

e. Instructional strategies in mathematics. An understanding and application of service delivery, curriculum, and instruction of students with disabilities in mathematics. Knowledge of the general curriculum mathematics requirements and expectations and how to provide access to the curriculum based on student characteristics and needs. Ability to assess, interpret data and implement instructional practices to address calculations, reasoning and problem-solving skills. Skills in this area include the ability to understand and use a range of specialized mathematics instructional strategies and research-based interventions that reflect best practice in mathematics instruction for students with disabilities. Ability to align the instructional practices and intervention with the Standards of

Learning and state assessments. Knowledge of and ability to utilize current mathematics related assistive and instructional technologies to promote learning and independence for students with disabilities in the general curriculum and the ability to evaluate the effectiveness of the use of the technologies. Ability to develop and use curriculum-based and standardized mathematics assessments to conduct ongoing evaluations of instructional materials and practices to determine effectiveness and assess student needs as related to the mathematics curriculum design and delivery. Ability to model and directly teach mathematics instructional strategies in a variety of settings, collaborate and co-teach with general educators to develop and implement instructional practices that meet the needs of students with disabilities in the mathematics general curriculum and monitor student progress.

3. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

4. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-520. Special education - general curriculum middle education grades 6-8 (add-on endorsement).

The program in special education - general curriculum middle education grades 6-8 (add-on endorsement) shall ensure that the candidate has demonstrated the following competencies. The candidate must:

1. Hold a license issued by the Virginia Board of Education with an endorsement in middle education (middle education 6-8 English, middle education 6-8 history and social sciences, middle education 6-8 mathematics, or middle education-sciences)

2. Have completed competencies in the education of students with disabilities distributed in each of the following areas:

a. Foundations. Characteristics that include knowledge of the foundation for educating students with disabilities; historical, ethical, and legal aspects that include an understanding and application of the federal and state regulatory requirements, and expectations associated with identification, education, and evaluation of students with disabilities.

b. Individualized education program development and implementation. Knowledge of the eligibility process, legal and regulatory requirements of IEP development including timelines, components, team composition, roles and responsibilities. Skills in this area include the ability to apply knowledge of assessment and evaluation throughout the K-12 grade levels to construct, use, and interpret a

variety of standardized and nonstandardized data collection techniques; to make decisions about student progress, instructional, program, goal development, accommodations, placement, and teaching methodology for students with disabilities who are accessing the general education curriculum and the standards of learning; and to demonstrate the use of assessment, evaluation, and other information to develop and implement individual educational planning and group instruction with students with disabilities who are accessing the general education curriculum across the K-12 grade levels.

c. Transitioning. Skills in this area include the ability to prepare students and work with families and community agencies to provide successful student transitions throughout the educational experience to include postsecondary education training, employment, and independent living which addresses an understanding of long-term planning, career development, life skills, community experiences and resources, self-advocacy, and self-determination, guardianship and legal considerations.

d. Instructional strategies in reading and writing. An understanding and application of service delivery, curriculum, and instruction of students with disabilities in reading and writing. Knowledge of the general curriculum, English requirements and expectations, and how to provide access to the curriculum based on student characteristics and needs. Ability to assess, interpret data and implement instructional practices to address the identified reading needs of the students. Skills in this area include the ability to identify, understand and implement a range of specialized instructional strategies and research-based interventions that reflect best practice in reading and writing instruction for students with disabilities. Ability to align the instructional practices and intervention with the Standards of Learning and state assessments. Knowledge and ability to utilize current assistive and instructional reading and writing technologies to promote learning and independence for students with disabilities in the general curriculum and the ability to evaluate the effectiveness of the use of the technologies. Ability to develop and use curriculum-based and standardized reading and writing assessments to conduct ongoing evaluations of instructional materials and practices to determine effectiveness and assess student needs as related to the curriculum design and delivery. Ability to model and directly teach reading and writing instructional strategies in a variety of settings, collaborate and co-teach with general educators to develop and implement instructional practices that meet the needs of students with disabilities in the general curriculum and monitor student progress.

e. Instructional strategies in mathematics. An understanding and application of service delivery, curriculum, and instruction of students with disabilities in mathematics. Knowledge of the general curriculum mathematics requirements and expectations and how to provide access to the curriculum based on student characteristics and needs. Ability to assess, interpret data and implement instructional practices to address calculations, reasoning and problem-solving skills. Skills in this area include the ability to understand and use a range of

specialized mathematics instructional strategies and research-based interventions that reflect best practice in mathematics instruction for students with disabilities. Ability to align the instructional practices and intervention with the Standards of Learning and state assessments. Knowledge of and ability to utilize current mathematics related assistive and instructional technologies to promote learning and independence for students with disabilities in the general curriculum and the ability to evaluate the effectiveness of the use of the technologies. Ability to develop and use curriculum based and standardized mathematics assessments to conduct ongoing evaluations of instructional materials and practices to determine effectiveness and assess student needs as it relates to the mathematics curriculum design and delivery. Ability to model and directly teach mathematics instructional strategies in a variety of settings, collaborate and co-teach with general educators to develop and implement instructional practices that meet the needs of students with disabilities in the mathematics general curriculum and monitor student progress.

3. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

4. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-530. Special education - general curriculum secondary education grades 6-12 (add-on endorsement).

The program in special education - general curriculum secondary education grades 6-12 (add-on endorsement) shall ensure that the candidate has demonstrated the following competencies. The candidate must:

1. Hold a license issued by the Virginia Board of Education with an endorsement in English, history and social sciences, mathematics, biology, chemistry, Earth science, or physics.

2. Have completed competencies in the education of students with disabilities distributed in each of the following areas:

   a. Foundations. Characteristics that include knowledge of the foundation for educating students with disabilities; historical, ethical, and legal aspects that include an understanding and application of the federal and state regulatory requirements, and expectations associated with identification, education, and evaluation of students with disabilities.

   b. Individualized education program development and implementation. Knowledge of the eligibility process, legal and regulatory requirements of IEP development including timelines, components, team composition, roles and responsibilities.

Skills in this area include the ability to apply knowledge of assessment and evaluation throughout the K-12 grade levels to construct, use, and interpret a variety of standardized and nonstandardized data collection techniques; to make decisions about student progress, instructional, program, goal development, accommodations, placement, and teaching methodology for students with disabilities who are accessing the general education curriculum and the standards of learning; and to demonstrate the use of assessment, evaluation, and other information to develop and implement individual educational planning and group instruction with students with disabilities who are accessing the general education curriculum across the K-12 grade levels.

c. Transitioning. Skills in this area include the ability to prepare students and work with families and community agencies to provide successful student transitions throughout the educational experience to include postsecondary education training, employment, and independent living which addresses an understanding of long-term planning, career development, life skills, community experiences and resources, self-advocacy, and self-determination, guardianship and legal considerations.

d. Instructional strategies in reading and writing. An understanding and application of service delivery, curriculum, and instruction of students with disabilities in reading and writing. Knowledge of the general curriculum, English requirements and expectations, and how to provide access to the curriculum based on student characteristics and needs. Ability to assess, interpret data and implement instructional practices to address the identified reading needs of the students. Skills in this area include the ability to identify, understand and implement a range of specialized instructional strategies and research-based interventions that reflect best practice in reading and writing instruction for students with disabilities. Ability to align the instructional practices and intervention with the Standards of Learning and state assessments. Knowledge and ability to utilize current assistive and instructional reading and writing technologies to promote learning and independence for students with disabilities in the general curriculum and the ability to evaluate the effectiveness of the use of the technologies. Ability to develop and use curriculum-based and standardized reading and writing assessments to conduct ongoing evaluations of instructional materials and practices to determine effectiveness and assess student needs as related to the curriculum design and delivery. Ability to model and directly teach reading and writing instructional strategies in a variety of settings, collaborate and co-teach with general educators to develop and implement instructional practices that meet the needs of students with disabilities in the general curriculum and monitor student progress.

e. Instructional strategies in mathematics. An understanding and application of service delivery, curriculum, and instruction of students with disabilities in mathematics. Knowledge of the general curriculum mathematics requirements and expectations and how to provide access to the curriculum-based on student characteristics and needs. Ability to assess, interpret data and implement

instructional practices to address calculations, reasoning and problem-solving skills. Skills in this area include the ability to understand and use a range of specialized mathematics instructional strategies and research-based interventions that reflect best practice in mathematics instruction for students with disabilities. Ability to align the instructional practices and intervention with the Standards of Learning and state assessments. Knowledge of and ability to utilize current mathematics related assistive and instructional technologies to promote learning and independence for students with disabilities in the general curriculum and the ability to evaluate the effectiveness of the use of the technologies. Ability to develop and use curriculum-based and standardized mathematics assessments to conduct ongoing evaluations of instructional materials and practices to determine effectiveness and assess student needs as it relates to the mathematics curriculum design and delivery. Ability to model and directly teach mathematics instructional strategies in a variety of settings, collaborate and co-teach with general educators to develop and implement instructional practices that meet the needs of students with disabilities in the mathematics general curriculum and monitor student progress.

3. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

4. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-5~~0~~40. Speech communication (add-on endorsement).

The program in speech communication shall ensure that the candidate has demonstrated the following competencies:

1. Understanding and knowledge of oral communication, including language acquisition involving the processes of expressive and receptive language and voice production involving the aesthetics of speech;

2. Understanding and knowledge of common speech production patterns, including articulation, pronunciation, and dialectical variances as these relate to Standard English patterns;

3. Understanding the components of effective messages, including appropriate use of language, voice and diction, and nonverbal elements;

~~3~~4. Understanding of and proficiency in effective communication, including interpersonal communication, small group, skills contributing to effective listening, the art of persuasion, oral interpretation, group discussion, mass communication, public speaking, ~~and~~ debate~~;~~ verbal and nonverbal messages and the ability to critique such communication interactions; ~~and~~

5. Understanding media/digital/visual literacy and the skills to evaluate and utilize these literacies in presentations;

~~4.~~6. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~;

7. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes;

8. Skills necessary to teach research including ethical accessing, evaluating, organizing, crediting, and synthesizing information as needed for speech communication; and

9. Knowledge of the Computer Technology Standards of Learning and their integration into Speech Communication.

8VAC20-542-5~~1~~50. ~~Theater~~ Theatre arts preK-12.

The program in ~~theater~~ theatre arts preK-12 shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of the ~~theater~~ theatre arts discipline as defined in the Virginia Standards of Learning and how these provide a necessary foundation integral to teaching ~~theater~~ theatre arts.

2. Understanding of the knowledge, skills and processes for teaching ~~theater~~ theatre arts to the developmental levels and academic needs of students in preK-12, including the following:

   a. Experience in planning, developing, administering, and evaluating a program of ~~theater~~ theatre arts education;

   b. Knowledge and understanding for teaching theatre arts, including: performance and production, theatre history and cultural context ~~and theatre history, judgment and criticism,~~ analysis and evaluation and critique, and aesthetics;

   c. Directing;

   d. Technical ~~theater~~ theatre, including lighting, set design, stage craft, costuming, makeup, and safety;

   e. Performance, including acting and acting styles;

   f. Dramatic literature;

g. The relationship of ~~theater~~ theatre and culture and the influence of ~~theater~~ theatre on past and present cultures~~, including the history of theater~~;

h. Knowledge and understanding of technological and artistic copyright laws;

i. Knowledge and understanding of classroom management and safety, including performance and studio;

~~j~~k. Knowledge of instructional and assessment strategies to foster, support, and enhance student ~~theater~~ theatre arts learning;

~~k~~ l. Knowledge of related areas of ~~theater~~ theatre arts, such as art, dance arts, music, and the visual arts; ~~and~~

m. Knowledge and understanding of technology, with applications for instruction, resources, artistic expression, administration, assessment, and communication;

n. Knowledge and understanding of appropriate and sensitive attention to diversity and cultural understanding; and

~~l.~~o. Observation and student teaching experiences at the elementary, middle and secondary levels.

3. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

4. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-5~~2~~60. Visual arts preK-12.

The program in visual arts preK-12 shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of the visual arts discipline as defined in the Virginia Standards of Learning, and how they provide a necessary foundation for teaching the visual arts;

2. Understanding of the knowledge, skills, and processes for teaching art appropriate to the developmental levels and academic needs of students in preK-12 including the following areas:

a. Knowledge and experience in planning, developing, administering, and evaluating a program of visual arts education;

b. Two-dimensional media and concepts: basic and complex techniques and concepts in two-dimensional design, drawing, painting, printmaking, computer graphics and other electronic imagery;

c. Three-dimensional media and concepts: basic and complex techniques and concepts in three-dimensional design, sculpture, ceramics, fiber arts, ~~and~~ crafts; and computer and other electronic imagery;

d. Knowledge and understanding for teaching the visual arts, including: visual communication and production, art history and cultural context ~~and art history~~, ~~judgment and criticism,~~ analysis and evaluation and critique, and aesthetics;

e. The relationship of visual arts and culture and the influence of visual arts on past and present cultures;

f. Related areas of visual arts, such as architecture, dance arts, music, theatre arts, photography, and other expressive arts;

g. Knowledge and understanding of technological and artistic copyright laws;

h. Knowledge and understanding of classroom management and safety, including use of toxic art material in various aspects of studio and classroom work;

i. Knowledge of a variety of instructional and assessment strategies to foster, support, and enhance student visual arts learning; ~~and~~

j. Knowledge and understanding of technology, with applications for instruction, resources, artistic expression, administration, assessment, and communication;

k. Knowledge and understanding of appropriate and sensitive attention to diversity and cultural understanding; and

~~j~~ l. Observation and student teaching experiences at the elementary, middle and secondary levels.

3. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

4. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

Article 4

Administration and Supervision and Personnel Support

8VAC20-542-5~~3~~70. Administration and supervision preK-12.

~~1.~~ A. The program in administration and supervision preK-12 shall ensure that the candidate has demonstrated the following competencies:

~~a~~1. Knowledge, understanding, and application of planning, assessment, and instructional leadership that builds collective professional capacity, including;

~~(1)~~a. Principles of student motivation, growth, and development as a foundation for age- and grade-appropriate curriculum, instruction, and assessment;

~~(2)~~b. Collaborative leadership in gathering and analyzing data to identify needs to develop and implement a school improvement plan that results in increased student learning;

~~(3)~~c. Planning, implementation, and refinement of standards-based curriculum aligned with instruction and assessment;

~~(4)~~d. Collaborative planning and implementation of a variety of assessment techniques, including examination of student work, that yield individual, class, grade level, and school level data as a foundation for identifying existing competencies and targeting areas in need of further attention;

~~(5)~~e. Incorporation of differentiated and effective instruction that responds to individual learner needs including appropriate response to cultural, ethnic, and linguistic diversity;

f. Knowledge, understanding, and application of the federal and state regulatory requirements, and expectations associated with identification, education, and evaluation of students with disabilities;

g. Collaboratively working with parents and school personnel to ensure that students with disabilities are included as a valued part of the school community, and that they receive effective and appropriately intensive instruction to assist them in meeting the standards set for all students as well as individual goals outlined in their Individualized Education Plans (IEPs);

~~(6)~~h. Integration of technology in curriculum and instruction to enhance learner understanding;

~~(7)~~i. Identification, analysis, and resolution of problems using effective problem-solving techniques;

~~(8)~~j. ~~Communication of a clear~~Development, articulation, implementation, and stewardship of a vision of excellence, linked to mission and core beliefs that promote continuous improvement consistent with the goals of the school division.

~~b.~~2. Knowledge understanding, and application of ~~systems~~leadership and organizations, including;

~~(1)~~a. ~~Systems theory and t~~The change process of systems, organizations and individuals, using appropriate and effective adult learning models;

~~(2)~~b. Aligning organizational practice, division mission, and core beliefs for developing and implementing strategic plans;

~~(3)~~c. Information sources and processing, including data collection and data analysis strategies;

~~(4)~~d. Using data as a part of ongoing program evaluation to inform and lead change;

~~(5)~~e. Developing a change management strategy for improved student outcomes;

~~(6)~~f. Developing ~~empowerment~~distributed leadership strategies to create personalized learning environments for diverse schools; and

~~(7)~~g. Effective two-way communication skills including consensus building, negotiation, and mediation skills.

~~c.~~3. Knowledge understanding and application of management and leadership skills that achieve effective and efficient organizational operations and sustain an instructional program conducive to student academic progress, including;

~~(1)~~a. Alignment of curriculum and instruction and assessment of the educational program to achieve high academic success at the school and division/district level;

~~(2)~~b. Principles and issues of supervising and leading others to ensure a working and learning climate that is safe, secure, and respectful of a diverse school community;

~~(3)~~c. Management decisions that ensure successful teaching and learning including, human resources management and development, theories of motivation, change in school culture, innovation and creativity, conflict resolution, adult learning and professional development models;

d. Knowledge, understanding, and application of Virginia's *Guidelines for Uniform Performance Standards and Evaluation Criteria for Teachers* and the *Guidelines for Uniform Performance Standards and Evaluation Criteria for Principals*;

~~(4)~~e. Principles and issues related to fiscal operations of school management;

~~(5)~~f. Principles and issues related to school facilities and use of space and time for supporting high-quality school instruction and student learning;

~~(6)~~g. Legal issues impacting school operations and management;

~~(7)~~h. Technologies that support management functions; and

~~(8)~~(9) Application of data-driven decision making to initiate and continue improvement in school and classroom practices and student achievement.

~~d~~4. Knowledge understanding and application of the conditions and dynamics impacting a diverse school community, including:

~~(1)~~a. Emerging issues and trends within school/community relations;

~~(2)~~b. Working collaboratively with staff, families, and community members to secure resources and to support the success of a diverse population;

~~(3)~~c. Developing appropriate public relations and public engagement strategies and processes for building and sustaining positive relationships with families, caregivers, and community partners; and

~~(4) Principles of effective two-way communication, including consensus building and negotiation skills;~~

~~(5)~~d. Integration of technology to support communication efforts.

~~e~~5. Knowledge understanding and application of the purpose of education and the role of professionalism in advancing educational goals, including:

~~(1)~~a. ~~Historically and philosophically grounded~~ ~~p~~Philosophy of education that reflects commitment to principles of honesty, fairness, caring, and equity in day-to-day professional behavior;

~~(2)~~b. Integration of high quality, content rich, job-embedded professional learning that respects the contribution of all faculty and staff members in building a diverse professional learning community;

~~(3)~~c. Reflective understanding of ~~theories of leadership~~potential moral and legal consequences of ~~and their application to~~ decision making in the school setting;

~~(4)~~d. Intentional and purposeful effort to model professional, moral, and ethical standards as well as personal integrity in all interactions; and

~~(5)~~e. Intentional and purposeful effort to model continuous professional learning and to work collegially and collaboratively with all members of the school community to support the school's goals and enhance its collective capacity.

~~f~~6. Knowledge understanding and application of ~~basic~~ leadership theories and influences that impact schools including:

~~(1)~~a. Concepts of leadership including systems theory, change theory, learning organizations and current leadership theory;

~~(2) Historical leadership theories including organizational theory, motivational theory, political and social systems theory to practical situations~~

~~(3)~~b. Identify and respond to internal and external forces and influences on a school;

~~(4)~~c. Identify and apply the processes of educational policy development at the state, local, and school level; and

~~(5)~~d. Identify and demonstrate ways to influence educational policy development at the state, local, and school level.

~~g. Embedded learning strategies for improved student learning totaling at least 120 clock hours including;~~

~~(1) Experiential activities that complement, implement, and parallel the university curriculum;~~

~~(2) Activities that emphasize student work with practical application that shall take place in the internship, the practicum field experience, as well as throughout the university program~~.

~~2.~~B. Complete ~~a minimum of 320 clock hours of~~ a deliberately structured and supervised internship that ~~provides exposure to multiple sites (elementary, middle, high, central office, agency) with diverse student populations. These experiences shall be an integral component of a Virginia Board of Education approved preparation program. The internship shall be~~ is focused on ~~learning~~student academic progress for all students ~~and shall occur in a public school or accredit nonpublic school~~; and

1. Provides significant experiences within a school environment for candidates to synthesize and apply the content knowledge and develop professional skills through school-based leadership experiences;

2. Shall occur in a public or accredited nonpublic school;

3. Provides exposure to five different multiple sites (elementary, middle, high, central office, agency) with diverse student populations; and

4. Documents a minimum of 320 clock hours, of which at least 120 clock hours are embedded as experiential field-based opportunities experienced during coursework.

~~3~~C. Satisfy the requirements for the school leaders licensure assessment prescribed by the Board of Education (Individuals seeking an initial administration and supervision endorsement who are interested in serving as central office instructional personnel are not required to take and pass the school leaders assessment prescribed by the Board of Education.)

8VAC20-542-54~~8~~0. Mathematics specialist for elementary ~~and middle~~ education.

A. A mathematics specialist is a teacher in the elementary ~~or middle~~ grades who has interest and special preparation in mathematics content, scientifically based research in the teaching and learning of mathematics, diagnostic and assessment methods, and leadership skills. The school-based mathematics specialist shall serve as a resource in professional development, instructing children who have learning difficulties in mathematics, curriculum development and implementation, mentoring new teachers, and parent and community education.

B. The mathematics specialist program shall ensure that the candidate has completed at least three years of successful classroom teaching experience in which the teaching of mathematics was an important responsibility and demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of the Virginia Mathematics Standards of Learning and how curriculum may be organized to teach these standards to diverse learners;

2. Understanding of a core knowledge base of concepts and procedures within the discipline of mathematics, including the following strands: number systems and number theory; geometry and measurement; statistics and probability; and functions and algebra;

3. Understanding of the sequential nature of mathematics, the vertical progression of mathematical standards, and the mathematical structures inherent in the content strands;

4. Understanding of the connections among mathematical concepts and procedures and their practical applications;

5. Understanding of and the ability to use the five processes - becoming mathematical problem-solvers, reasoning mathematically, communicating mathematically, making mathematical connections, and using mathematical models and representations - at different levels of complexity;

~~6. Understanding of the history of mathematics, including the contributions of different individuals and cultures toward the development of mathematics and the role of mathematics in culture and society;~~

~~7~~ 6. Understanding of major current curriculum studies and trends in mathematics;

7. Understanding how to utilize appropriate technologies for teaching and learning mathematics including virtual manipulatives;

~~8. Understanding of the role of technology and the ability to use graphing utilities and computers in the teaching and learning of mathematics;~~

~~9~~8. Understanding of and the ability to select, adapt, evaluate and use instructional materials and resources, including professional journals and technology;

~~10~~ 9. Understanding of and the ability to use strategies for managing, assessing, and monitoring student learning, including diagnosing student errors;

~~11~~10. Understanding of and the ability to use strategies to teach mathematics to diverse learners;

~~12~~11. Understanding of leadership skills needed to improve mathematics programs at the school and division levels, including the needs of high and low-achieving students and of strategies to challenge them at appropriate levels; child psychology, including personality and learning behaviors; educational measurement and evaluation; and effective professional development approaches; and

12. Understanding of how to develop and lead appropriate professional development based on the needs of students and the school community;

13. Understanding of how to work with school-based administration for the improvement of mathematics teaching and learning;

14. Understanding of how to effectively mentor teachers for the improvement of mathematics teaching and learning;

15. Understanding of how to effectively work with parents and the at-large community to improve mathematics teaching and learning;

~~13~~16, Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing; and ~~.~~

17. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-590. Mathematics specialist for middle education.

A. A mathematics specialist is a teacher in the ~~elementary or~~ middle grades who has interest and special preparation in mathematics content, scientifically-based research in the teaching and learning of mathematics, diagnostic and assessment methods, and leadership skills. The school-based mathematics specialist shall serve as a resource in professional development, instructing children who have learning difficulties in mathematics, curriculum development and implementation, mentoring new teachers, and parent and community education.

B. The mathematics specialist program shall ensure that the candidate has completed at least three years of successful classroom teaching experience in which the teaching of mathematics was an important responsibility and demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes of the Virginia Mathematics Standards of Learning and how curriculum may be organized to teach these standards to diverse learners;

2. Understanding of a core knowledge base of concepts and procedures within the discipline of mathematics, including the following strands: number systems and number theory; geometry and measurement; statistics and probability; and functions and algebra;

3. Understanding of the sequential nature of mathematics, the vertical progression of mathematical standards, and the mathematical structures inherent in the content strands;

4. Understanding of the connections among mathematical concepts and procedures and their practical applications;

5. Understanding of and the ability to use the five processes - becoming mathematical problem-solvers, reasoning mathematically, communicating mathematically, making mathematical connections, and using mathematical models and representations - at different levels of complexity;

~~6. Understanding of the history of mathematics, including the contributions of different individuals and cultures toward the development of mathematics and the role of mathematics in culture and society;~~

6. Understanding of major current curriculum studies and trends in mathematics;

7. Understanding how to utilize appropriate technologies for teaching and learning mathematics, including graphing utilities, dynamic software, spreadsheets, and virtual manipulatives;

8. Understanding of and the ability to select, adapt, evaluate and use instructional materials and resources, including professional journals and technology;

9. Understanding of and the ability to use strategies for managing, assessing, and monitoring student learning, including diagnosing student errors;

10. Understanding of and the ability to use strategies to teach mathematics to diverse learners;

11. Understanding of leadership skills needed to improve mathematics programs at the school and division levels, including the needs of high- and low-achieving students and of strategies to challenge them at appropriate levels; child psychology, including personality and learning behaviors; educational measurement and evaluation; and effective professional development approaches; and

12. Understanding of how to develop and lead appropriate professional development based on the needs of students and the school community;

13. Understanding of how to work with school-based administration for the improvement of mathematics teaching and learning;

14. Understanding of how to effectively mentor teachers for the improvement of mathematics teaching and learning;

15. Understanding of how to effectively work with parents and the at-large community to improve mathematics teaching and learning;

16. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing; and

17. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-~~55~~600. Reading specialist.

The reading specialist program shall ensure that the candidate has demonstrated the following competencies:

1. Assessment and diagnostic teaching. The candidate shall:

   a. Demonstrate expertise in the use of formal and informal screening, diagnostic and progress monitoring assessment for language proficiency, concepts of print, ~~phoneme~~ phonemic awareness, letter recognition, decoding, fluency, vocabulary, reading levels, comprehension; and

b. Demonstrate expertise in the ability to use diagnostic data to ~~tailor~~ inform instruction for acceleration, intervention, remediation, and ~~flexible skill-level groupings~~ differentiation.

2. ~~Oral c~~Communication~~.~~ : Speaking, Listening, Media Literacy. The candidate shall:

a. Demonstrate expertise in the knowledge, skills, and processes necessary for teaching communication, (speaking, listening, and media literacy) ~~oral language (speaking and listening)~~;

b. Demonstrate expertise in developing students' phonological awareness skills;

c. Demonstrate effective strategies for facilitating the learning of standard English by speakers of other languages and dialects;

d. Demonstrate an understanding of the unique needs of students with language differences and delays; and

e. Demonstrate the ability to promote creative thinking and expression, as through storytelling, drama, choral/oral reading, etc.; and

f. Demonstrate the ability to teach students to identify the characteristics of, and apply critical thinking to media messages, and to facilitate their proficiency in using various forms of media to collaborate and communicate.

3. Reading~~/literature~~. The candidate shall:

a. Demonstrate expertise in explicit and systematic phonics instruction, including an understanding of sound/symbol relationships, syllables, phonemes, morphemes, decoding skills, word analysis, and word attack skills;

b. Demonstrate expertise in the morphology of English including inflections, prefixes, suffixes, roots, and word relationships;

c. Demonstrate expertise in strategies to increase vocabulary;

d. Demonstrate expertise in the structure of the English language, including and understanding of syntax, semantics, and vocabulary development;

e. Demonstrate expertise in reading comprehension strategies, including a repertoire of questioning strategies, understanding the dimensions of word meanings, teaching predicting, inferencing, summarizing, clarifying, evaluating, and ~~associating the unknown with what is known~~ making connections;

f. Demonstrate expertise in the ability to teach strategies in literal, interpretive, critical, and evaluative comprehension;

g. Demonstrate the ability to develop comprehension skills in all content areas;

h. Demonstrate the ability to foster appreciation of a variety of literature; and

i. Understand the importance of promoting independent reading and reading ~~reflectively~~ strategically through a variety of means including by selecting ~~quality literature, including~~ fiction and nonfiction texts, of ~~at~~ appropriate, yet engaging, topics and reading levels~~.~~; and

j. Demonstrate effective strategies for teaching students to view, interpret, analyze, and represent information and concepts in visual form with or without the spoken or written word.

4. Writing. The candidate shall:

a. Demonstrate expertise in the knowledge, skills, and processes necessary for teaching writing, including the domains of composing, and written expression, and usage and mechanics and the writing process of planning, drafting, revising, editing, and sharing;

b. Demonstrate expertise in systematic spelling instruction, including awareness of the purpose and limitations of "invented spelling," orthographic patterns, and strategies for promoting generalization of spelling study to writing; and

c. Demonstrate expertise to teach the writing process: plan draft, revise, edit, and share in the narrative, descriptive, and explanative modes.

5. Technology. The candidate shall demonstrate expertise in their use of technology for both process and product as they work to guide students with reading, writing, and research.

6. Leadership, coaching, and specialization. The candidate shall:

a. Demonstrate an understanding of ~~child~~ developmental psychology, including personality and learning behaviors;

b. Demonstrate an understanding of the needs of high achieving students and of strategies to challenge them at appropriate levels;

c. Demonstrate an understanding of the significance of cultural contexts upon language;

d. Demonstrate an understanding of varying degrees of learning disabilities;

e. Demonstrate expertise with educational measurement and evaluation including validity, reliability, and normative comparisons in test design and selections;

f. Demonstrate expertise to interpret grade equivalents, percentile ranks, normal curve equivalents, and standards scores;

g. Demonstrate the ability to instruct and advise teachers in the skills necessary to differentiate reading instruction for both low and high achieving readers;

h. Demonstrate the ability to coach and support teachers through classroom observations, demonstrations, co-teaching, and other forms of job-embedded professional development;

~~h~~ i. Demonstrate the ability to organize and supervise the reading program within the classroom, school, or division;

~~i~~ j. Demonstrate effective communication skills in working with a variety of groups, including parents, teachers, administrators, community leaders, etc.; and

jk. Demonstrate knowledge of current research and exemplary practices in English/reading~~.~~;

l. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing~~.~~; and

m. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

8VAC20-542-~~5~~610. School counselor preK-12.

The school counselor preK-12 program shall ensure that the candidate has demonstrated the following competencies:

1. The ability to support students by cooperatively working with parents/guardians and teachers.

2. Understanding of the principles and theories of human growth and development throughout the lifespan and their implications for school ~~guidance and~~ counseling.

3. Understanding of the social and cultural foundations of education and their implications for school ~~guidance and~~ counseling programs.

4. Understanding of lifespan career development.

5. Understanding of the skills and processes for counseling students to include:

a. Individual and group counseling for academic development;

b. Individual and group counseling for career development; and

c. Individual and group counseling for personal/social development.

6. Understanding of the knowledge, skills, and processes for providing developmental group guidance, including:

a. Academic development;

b. Career development; and

c. Personal/social development.

7. Understanding of the skills and processes related to the school counseling program at the elementary, middle, and secondary levels, including:

a. Characteristics of learners at the elementary, middle, and secondary levels;

b. Program planning;

c. Coordination; and

d. Consultation~~;~~. ~~And~~

~~e. Staffing patterns.~~

8. Understanding of the knowledge, skills, and processes of student appraisal and assessment relative to school guidance and counseling programs, including:

a. Individual assessment; and

b. Group assessment.

9. Understanding of the school counseling professional, including:

a. Legal considerations;

b. Ethical considerations; and

c. Professional issues and standards.

10. Understanding of the skills and processes of research and evaluation aimed at improving school ~~guidance and~~ counseling programs.

11. Understanding work-based learning methods of instruction such as internship, job shadowing, cooperative education, mentorship, service learning, clinical, and youth apprenticeship,

12. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

13. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

14. The program shall include at least 100 clock hours of internship and practicum experience in the preK-6 setting and 100 clock hours of internship and practicum experience in the grades 7-12 setting.

8VAC20-542-~~57~~620. School psychology.

A. The school psychology program shall ensure that the candidate has demonstrated the following competencies:

1. Knowledge of basic teaching and learning principles and the conditions under which they operate maximally (academic environment and "instructional match").

~~3~~2. Knowledge and application of ~~P~~psychological foundations of human functioning (biological bases of behavior; cultural diversity; infant, child, and adolescent development; effects of poverty and lack of opportunity on learning; interplay between behavior, learning and motivation; personality theory; human learning; and social bases of behavior and mental health)) to ensure student academic achievement, ~~and~~ student growth and development, and mental health.

~~4~~3. Knowledge of and skill at applying ~~E~~educational foundations of schooling (education of exceptional learners, ; evidence-based instructional and remedial interventions, techniques, and strategies; formative and summative evaluation; evidence-based behavioral interventions; and organization and operations of schools) to ensure effective collaboration with other school professionals toward implementing school practices that promote learning and mental health..

~~1~~4. Knowledge of various methods ~~, skills, and processes~~ for assessing students' cognitive processes and abilities, and skill in administering a variety of such methods; knowledge of various methods for assessing student academic strengths and weaknesses, and skill in administering a variety of such methods; knowledge of various methods for assessing student ~~performance,~~ interpersonal emotional/social and behavioral functioning, ~~and sensory-motor functioning.~~ and skill in administering a variety of such methods; and knowledge of universal screening measures designed for early and tiered academic and behavioral intervention. Knowledge of a variety of

progress monitoring tools, especially student growth percentiles, and skill in implementing at least two such tools.

~~2~~5. Understanding and ~~of the~~ knowledge~~, skills, and processes for~~ of direct and indirect methods of academic and behavioral intervention, and proficiency in delivering such interventions including:

a. Counseling on an individual, group, ~~or~~ and family basis;

b. Consulting with administrators, teachers, parents, and other professionals about student problems and appropriate change strategies; and

c. Designing and implementing individual and group behavior change programs~~.~~; designing, implementing, and evaluating crisis intervention and threat (self-directed and other-directed) assessment programs; and

d. Designing and implementing academic/instructional interventions.

~~5~~6. Statistics and research design, measurement, and program evaluation.

~~6~~7. The profession of ~~School~~ psychology applied to schools ~~profession~~, including:

a. Basic knowledge of the *Standards of Practice* promoted by the National Association of School Psychologists (NASP);

b. Knowledge of and skill with several basic problem-solving schemes;

c. Knowledge of and ability to identify the variety of mental health problems exhibited by infants, children, and adolescents (through age 21), including the ability to collaborate with other community-based professionals and private practitioners in providing "wraparound services" to the extent possible (*Systems of Care* philosophy);

~~a~~d. History and foundations of school psychology;

~~b~~e. Legal and ethical issues of practicing in schools;

~~c~~f. Professional issues and standards related to practicing as a psychologist in a public school setting; and

~~d~~g. Knowledge of the ~~R~~roles ~~and function~~ of ~~the school psychologist~~ all individuals practicing/working in a public school setting.

8. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

9. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

10. The candidate shall have earned a baccalaureate degree from a regionally accredited college or university and completed 60 graduate hours, 54 of which are academic coursework (exclusive of field-based experiences) that culminate in at least a master's degree.

11. The candidate shall complete an internship that is documented by the degree granting institution. The internship experience shall occur on a full-time basis over a period of one year or on a half-time basis over a period of two consecutive years. The internship shall occur under conditions of appropriate supervision (i.e., the school-based supervisor shall be licensed as either a school or clinical psychologist). The internship shall include experiences at multiple age levels, at least one half of which shall be in an accredited schooling setting.

8VAC20-542-~~58~~630. School social worker.

The school social worker program shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the knowledge, skills, and processes for direct and indirect intervention, including:

   a. Facilitating integrated intervention efforts that emphasize primary prevention, early screening, and multi-tiered interventions that target multiple risk factors in various settings;

   b. Identifying approaches that seek to improve individual and system factors contributing to academic success and data-informed decision making and intervention fidelity;

   ~~a~~c. Counseling on an individual, group, or family basis;

   ~~b~~d. Consulting with administrators, teachers, parents, and other professionals about student problems and appropriate change strategies; and

   c~~.~~e. Networking/brokering with school programs and community agencies to provide essential services for families and children~~.~~; and

   ~~d~~f. Skills in collaborating with and facilitating collaboration among students, parents, members, administrators, teachers, and staff to identify ways to intervene early, reduce barriers to learning, and improve student outcomes.

2. Understanding of child development, psychopathology, social and environmental conditioning, cultural diversity, and family systems including:

   a. Acknowledgement of the interrelatedness of various ecological systems such as education, juvenile justice, family/children's health, mental health, and child protective services; and

   b. Knowledge of social problem impact on student performance and behaviors.

3. Understanding of the knowledge, skills, and processes for effective casework practice~~.~~:

   a. Examine factors in home, school, and/or community that impact students' educational performance and success; and

   b. Assist in reducing identified barriers to learning.

4. Specialized knowledge and ~~U~~understanding of the organization and operations of school systems~~.~~ including:

   a. Historical and current perspectives of public school education at the local, state, and national levels, including educational reform and legislation; and

   b. Identifying and conveying the impact social problems, within ecological systems of home/school/community, have on student performance in the educational setting.

5. Understanding of the knowledge, skills, and processes involved with assessing and programming for exceptional students~~.~~ including:

   a. Skills in implementing systematic assessment, data gathering and interpretation at multiple levels, and developing action plans to address the areas of need;

   b. Identifying and utilizing research-based interventions to enhance the educational opportunities and school performance of vulnerable and at-risk populations;

   c. Providing leadership in developing prevention programs and policies with administrators that impact school climate, student learning, and academic success; and

   d. Ability to facilitate team decision making and problem-solving strategies.

6. Understanding of the school social work profession, including:

   a. History and foundations of school ~~psychology~~ social work;

   b. Legal and ethical issues;

c. Professional issues and standards; and

d. The role and function of the school social worker~~.~~ to include contextual variables influencing school social work roles and functions (e.g., political, legal, ethical, and value-based issues) that confront schools.

7. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

8. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.

9. The candidate shall have earned a master's of social work degree from a regionally accredited college or university school of social work with a minimum of 60 graduate semester hours.

10. The candidate shall complete a minimum of six graduate semester hours in education to include six semester hours from two of the following courses:

a. The teaching profession (3 semester hours);

b. Characteristics of special education (3 semester hours);

c. Human development and learning (3 semester hours); or

d. Classroom and behavior management (3 semester hours).

11. The candidate shall complete a supervised practicum or field experience of a minimum of 400 clock hours in a public or accredited nonpublic school discharging the duties of a school social worker. One year of successful, full-time experience as a school social worker in a public or accredited nonpublic school may be accepted in lieu of the school social work practicum.

~~8VAC20-542-590. Special education speech-language disorders preK-12.~~

~~A. The program in special education speech-language disorders preK-12 shall ensure that the candidate has demonstrated the following competencies:~~

~~1. Understanding of the knowledge, skills, and processes of communication, oral and written, as defined in the Virginia Standards of Learning and how these are interrelated in forming a sound foundation for the understanding of speech and language acquisition.~~

~~2. Understanding of the knowledge, skills and processes of:~~

~~a. Normal development and the use of speech, voice, hearing, and language;~~

~~b. Basic sciences (biology and physics) and the basic communication sciences (acoustics, physiological processes of speech, hearing and linguistics);~~ and

c~~. Language acquisition and reading to include: phonemic awareness understanding of sound symbol relationships, phonics, syntax, semantics and comprehension of oral and written language.~~

~~3. Understanding of current principles, procedures, techniques, and instruments in:~~

~~a. The evaluation of speech, language, voice and hearing;~~

~~b. Psycho-educational assessments;~~ and

c~~. Research design.~~

~~4. Understanding of the knowledge, skills, and processes of:~~

~~a. Various types of disorders of speech, language, voice and hearing classifications, causes, and manifestations;~~ and

b~~. Relationships among speech, language, voice and hearing problems, especially multiple disabling conditions.~~

~~5. Understanding of the knowledge, skills, and processes for the use of:~~

~~a. Augmentation in the habilitation, prevention and rehabilitation of disorders of articulation.~~

~~b. The selection and use of evidenced based practices in the language, fluency, voice, resonance, and hearing.~~

~~6. Understanding of the knowledge, skills, and processes of the evaluation and treatment of disorders of the oral and pharyngeal mechanisms as they relate to communication, including but not limited to dysphasia.~~

~~7. A level of knowledge and skill in the use of:~~

~~a. Augmentative and alternative communication devices;~~

~~b. Modes of communication;~~ and

~~c. Strategies and techniques that promote or facilitate communication.~~

~~8. Understanding of the knowledge, skills, and processes of service delivery and instruction, including:~~

~~a. Organization and administration of public school programs to provide services for persons with speech-language disorders;~~ and

b~~. Services available from related fields for those with communication disorders.~~

~~9. Understanding of the knowledge, skills, and processes for educating special populations, including:~~

~~a. Historical perspective;~~

~~b. Characteristics of learners: developmental and cognitive;~~

~~c. Medical aspects;~~

~~d. Linguistic/multicultural aspects;~~

~~e. Family aspects;~~ and

f~~. Program evaluation.~~

~~10. Understanding of the knowledge, skills, and processes involved in the legal aspects associated with students with disabilities, including:~~

~~a. Legislative and judicial mandates related to special education;~~

~~b. Legal decisions related to persons with disabilities;~~

~~c. Advocacy and self-determination;~~

~~d. Guardianship;~~

~~e. Behavior management;~~ and

f~~. Disciplinary practices, policies and procedures, and alternative placements/programs in schools.~~

~~11. The ability to understand and manage behavior, including:~~

~~a. Behavior support systems;~~

~~b. Individual planning;~~ and

c~~. Research in current practice.~~

~~12. Understanding of the current knowledge and scope of the profession and sensitivity to issues of diversity.~~

~~B. Completion of 375 clock hours of direct client contact, of which 100 shall be in a supervised educational setting and a minimum of 200 clock hours shall be in speech-language pathology. These clinical clock hours shall be distributed in each of the following areas: diagnosis, management of language disorders, management of voice disorders, management of articulation disorders, management of fluency disorders, and audio logy.~~

8VAC20-542-6~~0~~4~~0~~0. Vocational evaluator.

The vocational evaluator program shall ensure that the candidate has demonstrated the following competencies:

1. Understanding of the foundations of vocational evaluation and career assessment, including philosophy and process of vocational evaluation/assessment, use of occupational and labor market information, and functional aspects of ~~disability~~ physical, mental and intellectual disabilities.

2. Understanding of the basic concepts and skills of planning for and delivering vocational evaluation and career assessment services, including the use of vocational interviewing, individualized service planning, report development and communication, and use of modifications and accommodations.

3. Ability to modify standard instruments and to develop new instruments to respond to labor markets or individual needs.

4. Understanding of the federal and state laws and regulations pertaining to special education (IDEA), rehabilitation (Rehabilitation Act and the Americans with Disabilities Act.)

~~3~~5. Understanding of the content, processes, and skills necessary to administer and report findings of standardized testing, including knowledge of tests and measurements and selection and use of appropriate instruments.

6. Above average communication skills in order to explain assessment information to school personnel, parents, students, and other service providers

7. Understanding of “natural supports” and assistive technology.

8. Ability to select, administer and interpret a wide assortment of evaluation instruments which includes commercial work sample systems, and situational assessments.

~~4~~ 9. Understanding and knowledge of specific assessment techniques and skills and the processes for conducting vocational evaluation and career assessment, including:

a. Job and training analysis;

b. Work samples and systems;

c. Situational and community-based assessment;

d. Behavioral observation;

e. Learning and functional skills assessment; and

f. Work site assessment (ecological assessment).

10. Understanding of and proficiency in grammar, usage, and mechanics and their integration in writing.

11. Understanding of and proficiency in pedagogy to incorporate writing as an instructional/assessment tool for candidates to generate, gather, plan, organize, and present ideas in writing to communicate for a variety of purposes.