

Opportunities in Teacher Education

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Teacher Education is a shared responsibility that spans three colleges. For most licensure areas, students major in a content area while taking additional education courses. All students who are recommended by Iowa State University for teacher licensure must meet the requirements of Teacher Education and be recommended by their department, college, and the ISU recommending official. Students who successfully complete the requirements for any of the endorsement areas offered at ISU must demonstrate the skills and knowledge required of beginning teachers.

Undergraduate Teacher Licensure Areas

An undergraduate student seeking a bachelor's degree must be enrolled in the department in which he or she plans to major and must meet the graduation requirements of that department and college.

Currently, there are fifteen undergraduate teacher licensure areas offered at Iowa State University. These areas and their corresponding grade levels are listed below:

Agricultural Education (grades 5-12)

Biology (grades 5-12)

Chemistry (grades 5-12)

Early Childhood Education (birth-grade 3, including special education) and Early Childhood Special Education (PK)

Earth Science (grades 5-12)

Elementary Education (grades K-6)

English (grades 5-12)

Family and Consumer Sciences (grades 5-12)

Health Education (grades 5-12)

History-Social Sciences (grades 5-12)

Mathematics (grades 5-12)

Music (grades K-12)

Physical Education (grades K-12)

Physics (grades 5-12)

World Languages and Cultures (French, German, and Spanish) (grades 5-12)

Additional Endorsements

Students must fulfill the requirements for one of the licensure areas listed above to add the endorsements below.

Art (K-8)

Basic Science (K-8)

Coaching Interscholastic Athletics (grades K-12)

English and Language Arts (K-8)

English as a Second Language (grades K-12)

General Science (grades 5-12)

Health (K-8)

History (K-8)

Instructional Strategist I: Mild/Moderate Disabilities (grades K-8 or 5-12)

Instructional Strategist II: Behavior Disorders/Learning Disabilities (K-12)

Mathematics (K-8)

Physical Science (5-12)

Reading (grades K-8 or 5-12)

Social Sciences (K-8)

Speech Communication (grades 5-12)

World Languages and Cultures (Chinese, French, German, Latin, Russian, and Spanish) (grades K-8 and 5-12)

Post-Bachelor's Teacher Licensure Areas

Students already holding an appropriate bachelor's degree may pursue teacher licensure in any of the undergraduate licensure areas listed above. Interested

students should consult with the coordinator of the area in which they plan to specialize so that an individualized program of study can be developed.

Graduate Teacher Licensure Areas

Currently, there are five graduate initial teacher licensure programs. These programs are designed for students who do not currently hold a teaching license. The programs are listed below:

Agricultural Education (M.S.)

Family and Consumer Sciences Education (M.Ed. or M.S.)

Mathematics Education (M.Ed.)

Physical Education (M.S.)

Secondary Sciences Education (M.A.T.)

Iowa State University also offers Master's programs for practicing teachers. The Mathematics Department offers a Masters in School Mathematics. (See Mathematics in Courses and Programs section of this catalog.) The Curriculum and Instruction Department offers a Master's degree program and a certificate program that lead to a special education endorsement. (See Curriculum and Instruction in Courses and Programs section of this catalog.)

Graduate programs are also available for those who seek licensure in Educational Leadership and Policy Studies as PK-12 school principals or PK-12 superintendents. (See Educational Leadership and Policy Studies in Courses and Programs section of this catalog.)

Master's Programs that Lead to Initial Teacher Licensure

Agricultural Education

The Agricultural Education and Studies Department offers a Master's of Science program that prepares Agricultural Education teachers for grades 5-12

See coordinator for program requirements.

Mathematics

The School of Education offers a Master's of Education program that prepares Mathematics teachers for grades 5-12

See coordinator for program requirements.

Physical Education

The Department of Kinesiology offers a Master's of Science program that prepares Physical Education teachers for grades K-12.

See coordinator for program requirements.

Secondary Sciences

The School of Education offers a Master's of Arts in Teaching program that prepares Secondary Science teachers for grades 5-12

See coordinator for program requirements.

Iowa Teacher Intern License Pathway

The Iowa Teacher Intern License Pathway is a Regent's collaborative designed for adult learners holding a baccalaureate degree who are seeking 5-12 licensure in a high needs area. For more information: <http://www.iowateacherintern.org/>

The General Education Requirement

All prospective teachers are required to meet general education requirements as a part of their preparation.

Undergraduate Students

Undergraduate students must complete studies in the following general education groups. General education courses may be found in many departments. Credits listed are minimum requirements. Specific departments and/or colleges may require additional credits. Credits used to satisfy these general education requirements typically satisfy department and college general education requirements. (See licensure area coordinator for more information.)

Cr.

6 - Natural sciences

3 - Mathematics or Statistics

9 - Social Sciences

6 - Humanities

9 - Communication Skills

1.0 - Information Literacy (Lib 160)

34.0 Total

The above requirements must include:

- (1). ENGL 150 and ENGL 250 or equivalent
- (2). One course that develops interpersonal or group presentation
- (3). HDFS 102 or PSYCH 230
- (4). One course in American history or government

Post-Bachelor's Students

Students holding an appropriate bachelor's degree who wish to pursue teacher licensure must have at least one course in each of the following five general education groups identified for undergraduate students in the preceding section: Natural Sciences, Mathematics or Statistics, Social Sciences, Humanities, and Communication Skills. Individual departments preparing teachers may require additional credits in general education. (See licensure area coordinator for more information.)

Master's Students

Each Master's program will determine what, if any, general education requirements Master's students must fulfill beyond a bachelor's degree from a regionally accredited institution. (See licensure area coordinator for more information.)

Standards

Teacher Education has a rigorous standards-based curriculum. Two sets of standards are used in the program, one that is targeted for pre-service teachers (Teacher Education Standards which originates from the Iowa Administrative Code, Chapter 79, Standards for Practitioner Preparation Programs) and the other set that is targeted for in-service teachers (the Iowa Teaching Standards and Model Criteria adopted by the State Board of Education), the latter is emphasized during student teaching. Both are listed below in full.

Teacher Education Standards

1. Content/subject matter specialization.

The candidate demonstrates an understanding of the central concepts, tools of inquiry, and structure of the discipline(s) the candidate teaches, and creates learning experiences that make these aspects of the subject matter meaningful for students. This is evidenced by a completion of a 30-semester-hour teaching major which, at a minimum, must include the requirements for at least one of the basic endorsement areas, special education teaching endorsements, or secondary level occupational endorsements. Each elementary candidate must also complete a field of specialization in a single discipline or a formal interdisciplinary program of at least twelve semester hours.

2. Student learning.

The candidate demonstrates an understanding of human growth and development and of how students learn, and receives learning opportunities that support intellectual, career, social and personal development.

3. Diverse learners.

The candidate demonstrates an understanding of how students differ in their approaches to learning and creates instructional opportunities that are equitable and adaptable to diverse learners.

4. Instructional planning.

The candidate plans instruction based upon knowledge of subject matter, students, the community, curriculum goals, and state curriculum models.

5. Instructional strategies.

The candidate demonstrates an understanding and use of a variety of instructional strategies to encourage student development of critical and creative thinking, problem-solving, and performance skills.

6. Learning environment/classroom management.

The candidate uses an understanding of individual and group motivation and behavior; creates a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation; maintains effective classroom management; and is prepared to address behaviors related to substance abuse and other high-risk behaviors.

7. Communication.

The candidate uses knowledge of effective verbal, nonverbal, and media communication techniques, and other forms of symbolic representation, to foster active inquiry, collaboration, and support interaction in the classroom.

8. Assessment.

The candidate understands and uses formal and informal assessment strategies to evaluate the continuous intellectual, social, and physical development of the student, and effectively uses both formative and summative assessment of students, including student achievement data, to determine appropriate instruction.

9. Foundations, reflective practice and professional development.

The candidate develops knowledge of the social, historical, and philosophical foundations of education. The candidate continually evaluates the effects of the candidate's choices and actions on students, parents, and other professionals in the learning community; actively seeks out opportunities to grow professionally; and demonstrates an understanding of teachers as consumers of research and as researchers in the classroom.

10. Collaboration, ethics and relationships.

The candidate fosters relationships with parents, school colleagues, and organizations in the larger community to support student learning and development; demonstrates an understanding of educational law and policy, ethics, and the profession of teaching, including the role of boards of education and education agencies; and demonstrates knowledge and dispositions for cooperation with other educators, especially in collaborative/co-teaching as well as in other educational team situations.

11. Technology.

The candidate effectively integrates technology into instruction to support student learning.

12. Methods of teaching.

Methods of teaching have an emphasis on the subject and grade level endorsement desired.

Iowa Teaching Standards and Criteria

Standard 1:

Demonstrates ability to enhance academic performance and support for implementation of the school district student achievement goals.

The teacher:

- a. Provides multiple forms of evidence of student learning and growth to students, families, and staff.
- b. Implements strategies supporting student, building, and district goals.
- c. Uses student performance data as a guide for decision-making.
- d. Accepts and demonstrates responsibility for creating a classroom culture that supports the learning of every student.
- e. Creates an environment of mutual respect, rapport, and fairness.
- f. Participates in and contributes to a school culture that focuses on improved student learning.
- g. Communicates with students, families, colleagues, and communities effectively and accurately.

Standard 2:

Demonstrates competence in content knowledge appropriate to the teaching position.

The teacher:

- a. Understands and uses key concepts, underlying themes, relationships, and different perspectives related to the content area.
- b. Uses knowledge of student development to make learning experiences in the content area meaningful and accessible for every student.
- c. Relates ideas and information within and across content areas.
- d. Understands and uses instructional strategies that are appropriate to the content area.

Standard 3:

Demonstrates competence in planning and preparing for instruction.

The teacher:

- a. Uses student achievement data, local standards, and the district curriculum in planning for instruction.

- b. Sets and communicates high expectations for social, behavioral, and academic success of all students.
- c. Uses student developmental needs, background, and interests in planning for instruction.
- d. Selects strategies to engage all students in learning.
- e. Uses available resources, including technologies, in the development and sequencing of instruction.

Standard 4:

Uses strategies to deliver instruction that meet the multiple learning needs of students.

The teacher:

- a. Aligns classroom instruction with local standards and district curriculum.
- b. Uses research-based instructional strategies that address the full range of cognitive levels.
- c. Demonstrates flexibility and responsiveness in adjusting instruction to meet student needs.
- d. Engages students in varied experiences that meet diverse needs and promote social, emotional, and academic growth.
- e. Connects students' prior knowledge, life experiences, and interests in the instructional process.
- f. Uses available resources, including technologies, in the delivery of instruction.

Standard 5:

Uses a variety of methods to monitor student learning.

The teacher:

- a. Aligns classroom assessment with instruction.
- b. Communicates assessment criteria and standards to all students and parents.
- c. Understands and uses the results of multiple assessments to guide planning and instruction.
- d. Guides students in goal setting and assessing their own learning.
- e. Provides substantive, timely, and constructive feedback to students and parents.
- f. Works with other staff and building and district leadership in analysis of student progress.

Standard 6:

Demonstrates competence in classroom management.

The teacher:

- a. Creates a learning community that encourages positive social interaction, active engagement, and self-regulation for every student.
- b. Establishes, communicates, models, and maintains standards of responsible student behavior.
- c. Develops and implements classroom procedures and routines that support high expectations for student learning.
- d. Uses instructional time effectively to maximize student achievement.
- e. Creates a safe and purposeful learning environment.

Standard 7:

Engages in professional growth.

The teacher:

- a. Demonstrates habits and skills of continuous inquiry and learning.
- b. Works collaboratively to improve professional practice and student learning.
- c. Applies research, knowledge, and skills from professional development opportunities to improve practice.
- d. Establishes and implements professional development plans based upon the teacher's needs aligned to the Iowa Teaching Standards and district/building student achievement goals.
- e. Provides an analysis of student learning and growth based on teacher created tests and authentic measures as well as any standardized and district-wide tests.

Standard 8:

Fulfills professional responsibilities established by the school district.

The teacher:

- a. Adheres to board policies, district procedures, and contractual obligations.

b. Demonstrates professional and ethical conduct as defined by state law and individual district policy.

c. Contributes to efforts to achieve district and building goals.

d. Demonstrates an understanding of and respect for all learners and staff.

e. Collaborates with students, families, colleagues, and communities to enhance student learning.

Electronic Portfolio

Each teacher candidate is required to demonstrate acquisition of the knowledge, skills and dispositions designated by the standards above for an Iowa teaching license at a level appropriate for a novice teacher. The e-portfolio allows Teacher Education to demonstrate to the Iowa Department of Education that each student recommended for an initial teaching license has an understanding of these standards.

At decision point 1, before signing off on admission materials for the student, the adviser/coordinator will check to see if the student started their e-portfolio with a minimum of one graded artifact uploaded.

At decision point 2, before signing off on student teaching materials for the student, the adviser/coordinator will check to see if the student has one graded artifact uploaded for each of the 12 standards.

At decision point 3, before signing off on licensure materials for the student, the coordinator will check to see if the student has 2 graded artifacts uploaded for each of the 12 standards. All artifacts must be graded by an instructor except for the artifacts for the content standard and the artifacts from student teaching.

At decision point 3, prior to recommendation for licensure, students will be required to write a synthesis of evidence assignment which would address all twelve teacher education standards. While the writing mechanics (punctuation, word usage, etc.) will be considered, the focus on the synthesis of evidence will be on whether or not the student has convinced the evaluator that s/he has met each standard. Students will receive notification from evaluators regarding their performance on the synthesis of evidence. A 'not proficient' rating on the synthesis of evidence will result in a recommendation to deny licensure. Departments may have additional requirements (see licensure area coordinator for more information). See the following webpage for more information on the electronic portfolio: <http://www.teacher.hs.iastate.edu/eportfolio.php>

The Professional Teacher Education Requirement (Professional Core)

Undergraduate Students

Prospective teachers must complete certain studies related directly to the profession of teaching. All undergraduate students in teacher education must take the following courses prior to student teaching, unless the student's licensure area has an approved content-area course deemed to be equivalent (see specific Licensure Area Requirements section below for details.)

Early Childhood Education and Elementary Education:

C I 201	Learning Technologies in the PK-6 Classroom	3
C I 204	Social Foundations of Education in the United States	3
C I 245	Strategies in Teaching	2
C I 268	Strategies Practicum	1
C I 332	Educational Psychology of Young Learners	3
C I 406	Multicultural Foundations of School and Society: Introduction	3
SP ED 250	Education of the Exceptional Learner in a Diverse Society	3
Student Teaching		16
Total Credits		34

K-12 AND Secondary Education:

C I 202	Learning Technologies in the 7-12 Classroom	3
C I 204	Social Foundations of Education in the United States	3
C I 333	Educational Psychology	3
C I 406	Multicultural Foundations of School and Society: Introduction	3

SP ED 401	Teaching Secondary Students with Exceptionalities in General Education	3
C I 426	Principles of Secondary Education	3

14-16 weeks: Student Teaching (Minimum 14 weeks) See Teacher Licensure Area Coordinator for more information

Students in K-12 licensure areas and secondary (grades 5-12) licensure areas must complete the courses listed above unless the student's licensure area has an approved equivalent. Areas with approved equivalents include: Agricultural Education (for CI 426), Physical Education (for CI 333, CI 401, CI 426) and all Secondary Sciences (for CI 426). (See licensure area coordinator for more information).

Post-Bachelor's Students

Students who hold an appropriate bachelor's degree and seek a teaching license must complete the professional education requirements listed above through course work or examination.

Master's Students

Prospective teachers must complete certain studies related directly to the profession of teaching. All students enrolled in Master's programs that lead to initial licensure must take the following courses prior to student teaching, unless the student's licensure area has an approved content area course deemed to be equivalent. (See Master's Programs section below for details.)

SP ED 501	Teaching Secondary Students with Exceptionalities in General Education	3
C I 505	Using Technology in Learning and Teaching	3
H P C 504	Studies in the Foundations of Education in the United States	3
C I 506	Multicultural Foundations of School and Society: Advanced	3
C I 526	Principles of Secondary Education	3
C I 529	Educational Psychology and the Secondary Classroom	3

14-16 Weeks: Student Teaching (Minimum 14 Weeks) See Teacher Licensure Area Coordinator for more information.

Clinical Experiences

The Standards for Practitioner and Administrator Preparation Programs (chapter 79.13(1)) requires that "candidates admitted to a teacher preparation program participate in field experiences including both observation and participation in teaching activities in a variety of school settings and totaling at least 80 hours' duration, with at least 10 hours occurring prior to acceptance into the program." This requirement may be met through pre-student teaching courses (e.g., C I 280, C I 480, CI 468, C I 580) or, in certain endorsement areas, a course designated to provide an equivalent experience. For most licensure areas, there are four levels for clinical experiences. Level 1 involves observation in local schools. Level 2 involves actively teaching in the classroom with one lesson, at minimum. Level 3 involves actively teaching in the classroom with two lessons, at minimum. Level 4 is student teaching and involves actively teaching for a minimum of 14 weeks where the student teacher bears primary responsibility for planning and instruction within the classroom for a minimum of two weeks (10 days). Level 2, 3 and 4 involve a course fee, which range from \$25.00 to \$328.00 and are assessed to cover the costs of supervision and placement with a cooperating teacher. Course fees are increased when student teaching nationally or internationally. For current course fees, consult the Schedule of Classes. For level 2, 3 and 4, the student needs access to transportation because the placement may be within 60 miles of the university. The time commitment for clinical experiences ranges from 1/2 day for level 2 and 3 to the full day for level 4. Students complete a background check before initial placement in schools and other appropriate locations.

Admission to Teacher Education (Decision Point 1)

Teacher Education Services (located in 133 MacKay) monitors the progress of teacher education students. Admission to Teacher Education is the first of three decision points. At this time, the requirements listed below will be checked. Students will not be able to progress to Student Teaching (decision point 2) and Licensure (decision point 3) without full admission to Teacher Education (decision point 1). Departments may have higher eligibility requirements for each decision point (see licensure area coordinator for more information).

Students transferring from other institutions with a minimum of 2.50 GPA or above may be admitted tentatively; full admission may be granted upon completion of nine semester credits averaging 2.50 or above at Iowa State University. Students who receive tentative admission are required to address concerns and submit an email message conveying how the concern was resolved and that they now meet all admission requirements to the Teacher Licensure Analyst. A minimum of 20 semester credits averaging 2.50 or above must be earned at Iowa State University to receive institution licensure approval (nine of the required 20 semester hours must precede student teaching).

A student seeking admission to Teacher Education must be accepted by a selection committee for the specific licensure area which the student seeks to enter. Factors considered in evaluating applications (in addition to the requirements listed below) may include professional dispositions, scholarship, interest in teaching, character, interpersonal skills, results from the background check, and physical and mental health. Recommendations by selection committees must be confirmed by the Educator Preparation Coordinating Council before admission is granted.

Requirements for full admission to Teacher Education as an undergraduate:

- A minimum 2.5 cumulative grade point average.
- Successful completion of one of the following basic skills tests:
 - A composite Praxis I (PPST) score of 522, with a minimum of 170 for each test (reading, writing, and mathematics).
 - Minimum scores for the basic skills tests may be subject to change. Details regarding the scores, dates and fees for these tests are available online: www.teacher.hs.iastate.edu.
- Documented completion of ISU approved 10 hours of pre-student teaching clinical experience.
- All Curriculum and Instruction (C I), Human Development and Family Studies (HD FS) and Special Education (Sp Ed) courses required for licensure have a minimum grade requirement of a C (pedagogy coursework). Courses in the department of the major specifically required for teacher licensure have a minimum grade requirement of a C- (content coursework).
- An acceptable Iowa criminal background check report initiated by ISU's recommending official.
- E-portfolio contains a minimum of one graded artifact (that received a proficient rating).

Requirements for full admission to Teacher Education as a post-bachelor's student:

- A bachelor's degree from a regionally accredited institution and a minimum 2.5 cumulative grade point average from that institution.
- Successful completion of one of the following basic skills tests:
 - Minimum GRE scores (400 on each of the Verbal and Quantitative sections.) Some licensure areas require higher GRE scores.
 - A composite Praxis I (PPST) score of 522, with a minimum of 170 for each test (reading, writing, and mathematics.) Some licensure areas may require higher Praxis I scores.

Minimum scores for the basic skills tests may be subject to change. Details regarding the scores, dates and fees for these tests are available online: www.teacher.hs.iastate.edu

- Documented completion of ISU approved 10 hours of pre-student teaching clinical experience.
- All Curriculum and Instruction (C I), Human Development and Family Studies (HD FS) and Special Education (Sp Ed) courses required for licensure have a minimum grade requirement of a C (pedagogy coursework). Courses in the department of the major specifically required for teacher licensure have a minimum grade requirement of a C- (content coursework).
- An acceptable Iowa criminal background check report initiated by ISU's recommending official.
- E-portfolio contains a minimum of one graded artifact (that received a proficient rating).

Requirements for full admission to University Teacher Education as a Master's student:

1. Full admission to an appropriate Master's degree program.
2. Successful completion of one of the following basic skills tests:
 - A. —Minimum GRE scores (400 on each of the Verbal and Quantitative sections.) Some licensure areas require higher GRE scores.
 - B. —A composite Praxis I (PPST) score of 522, with a minimum of 170 for each test (reading, writing, and mathematics.) Some licensure areas may require higher Praxis I scores.

Minimum scores for the basic skills tests may be subject to change. Details regarding the scores, dates and fees for these tests are available online: www.teacher.hs.iastate.edu

3. Documented completion of ISU approved 10 hours of pre-student teaching clinical experience.
4. All Curriculum and Instruction (C I), Human Development and Family Studies (HD FS) and Special Education (Sp Ed) courses required for licensure have a minimum grade requirement of a C (pedagogy coursework). Courses in the department of the major specifically required for teacher licensure have a minimum grade requirement of a C- (content coursework).
5. An acceptable Iowa criminal background check report initiated by ISU's recommending official.
6. E-portfolio contains a minimum of one graded artifact (that received a proficient rating).

Maintaining Program Eligibility

GPA:

At all three decision points, GPA will be checked for a minimum of a 2.5 cumulative grade point average.

Grades:

For teacher education students, all Curriculum and Instruction (C I), Human Development and Family Studies (HD FS) and Special Education (Sp Ed) courses required for licensure have a minimum grade requirement of a C. Courses in the department of the major specifically required for teacher licensure have a minimum grade requirement of a C-. Note: Individual departments preparing teachers may have higher eligibility requirements (see teacher licensure area coordinator for more information). Please note, for all three decision points (admission, student teaching and licensure) incomplete grades are NOT considered acceptable passing grades.

Electronic Portfolio:

In order to be recommended for licensure, all students must have demonstrated satisfactory performance across the teacher education competencies, as defined by their specific area. (See the teacher licensure area coordinator for more information.) Students' progress is monitored throughout the program and standards are assessed multiple times. More information is available online: www.teacher.hs.iastate.edu.

Factors considered in maintaining program eligibility may include professional dispositions, scholarship, interest in teaching, character, interpersonal skills, results from the background check, and physical and mental health. Throughout the program, a commendation/concern form may be completed by an adviser, coordinator, faculty member, cooperating teacher, or supervisor to document a teacher education student's knowledge, skills and dispositions worthy of commendation or concern. Significant concerns will result in removal from Teacher Education.

Background Checks

Two background checks (at minimum) will be completed on each student. First, prior to any clinical experiences taking place, students are required to undergo a state of Iowa background check through the Iowa Division of Criminal Investigation. Second, prior to receiving an initial Iowa teaching license, all candidates will undergo a national criminal history background check. The state background check costs \$18.00 and the national background check costs \$65.00, prices are subject to change.

At the time of a background check, students will also be required to report any prior criminal convictions or pending criminal charges. Any criminal misconduct charge other than parking or speeding violations must be reported. This includes all deferred judgments. In some cases, this will include criminal activity which occurred while a minor. Failure to accurately self-disclose to the appropriate ISU

personnel may prevent the student from engaging in a clinical experience or the removal of the student if already placed in a clinical experience.

Students are required to report criminal activity in order to maintain program eligibility. Any criminal misconduct charge a student receives after the first background check is completed must be reported immediately to the Teacher Licensure Analyst located in Teacher Education Services in 133 MacKay. Failure to do so may result in the discharge of the student from Teacher Education. Please note, on occasion, a more stringent background check may be conducted by a school or other appropriate location, which may lead to a denial of a placement. More information on the Student Self-Reporting of Alleged Criminal Misconduct Policy is located online: www.teacher.hs.iastate.edu.

Appeals

Students who do not meet the requirements for decision points may choose to appeal to the Educator Preparation Coordinating Council. The description of the appeals process is available online: www.teacher.hs.iastate.edu.

Student Teaching (Decision Point 2)

Student teaching is the culminating experience to the practitioner preparation program at Iowa State University. Depending on the licensure area pursued, student teaching varies in length for a minimum of 14 weeks. A supervisor will make frequent visits to the classroom to ensure success in this experience. Sites for student teachers are within driving distance of campus or at approved in-state, national, and international locations. More information can be found online: www.teacher.hs.iastate.edu. Course fees are assessed to cover the costs of supervision and placement with a cooperating teacher. To ensure that students are prepared for this experience, the following requirements must be met prior to submitting your "Request for Student Teaching Placement" form:

1. Completion of the "Request for Student Teaching Placement" by the deadline in the fall semester for spring student teaching and by the deadline in the spring semester for fall student teaching. The deadline for students is the end of the third week of the semester. Details regarding this application are available in Teacher Education Services (located in 133 MacKay).
2. A minimum 2.5 cumulative grade point average.
3. A passing grade as determined by the licensure area must have been earned in all required professional teacher education requirement courses and selected courses in the student's licensure area. All Curriculum and Instruction (C I), Human Development and Family Studies (HD FS) and Special Education (Sp Ed) courses required for licensure have a minimum grade requirement of a C (pedagogy coursework). Courses in the department of the major specifically required for teacher licensure have a minimum grade requirement of a C- (content coursework).
4. Complete (or concurrently completing) 80 hours of pre-student teaching field experience.
5. Report any criminal misconduct charge. Please note: When the student is enrolled in any field experience or anticipates commencing a field experience within 30 days, any criminal misconduct charge a student receives after the background check is completed must be reported immediately to Teacher Education Services. When the student is not enrolled in any field experience, the charge must be reported as soon as possible but no later than five working days after the incident. Failure to do so may result in the discharge of the student from Teacher Education. The faculty coordinator and the content major department chair will be notified. A committee will meet to review the self-reporting letter and make a decision on the student's progress.
6. E-portfolio has one graded artifact (that received a proficient rating) uploaded for each of the 12 standards.

Teacher Licensure (Decision Point 3)

The Iowa Board of Educational Examiners issues teaching licenses that are valid for specific ages or grades (e.g., Birth-3 for early childhood teachers, K-6 for elementary teachers and 5-12 for secondary teachers). Endorsements on a teaching license indicate which subject areas a teacher is qualified to teach. An initial teaching license costs \$85, price is subject to change. Completion of student teaching and required coursework does NOT guarantee recommendation for a teaching license. The Iowa License may be recommended for students who hold a bachelor's degree from Iowa State University or another regionally accredited institution and who have completed the following:

1. All requirements for an approved licensure area as designated by Iowa State University and the State of Iowa, including, but not limited to, the general education requirement, the professional teacher education requirement and

clinical experiences. Note: Specific courses to be used for licensure may not be taken pass/not pass.

- A minimum 2.5 cumulative grade point average.
- All Curriculum and Instruction (C I), Human Development and Family Studies (HD FS) and Special Education (Sp Ed) courses required for licensure have a minimum grade requirement of a C (pedagogy coursework). Courses in the department of the major specifically required for teacher licensure have a minimum grade requirement of a C- (content coursework)
- A national background check initiated by the Iowa Board of Educational Examiners.
- Completion of the Iowa Application for Licensure form.
- Documentation from the student teaching supervisor that the student has successfully completed the final assessment documenting the student's mastery of the skills and knowledge included in the Iowa Teaching Standards.
- Department approval by TE coordinator.
- Registrar approval (at this time, graduation is confirmed and holds on records are reviewed).
- Passing scores on Praxis II.
- E-portfolio has 2 graded artifacts (that received a proficient rating) uploaded for each of the 12 standards. Also, a proficient rating is earned on the synthesis of evidence.

Undergraduate and Post-Bachelor's (non-Master's) Teacher Licensure Area Requirements

Certain competencies are required of those who plan to teach at the early childhood, elementary or secondary level. For full-time teaching in secondary schools a major in an endorsement area or an approved subject matter concentration of at least 30 semester hours is required. Students interested in adding an additional endorsement area should consult with the coordinator or adviser of the additional area. Persons interested in teaching in one of the following endorsement areas should also consult with the appropriate adviser or coordinator. Specific requirements for each teacher licensure area are described below (these requirements are in addition to the General Education Requirements and the Professional Teacher Education Requirements that were listed earlier). For the most current list of required courses, consult with the coordinator or adviser who works with students on teacher licensure (see the following website for the contact information of these advisers or coordinators: www.teacher.hs.iastate.edu).

Agriculture

The Department of Agricultural Education and Studies is responsible for preparing Agricultural Education teachers for grades 5-12.

For specific content area requirements see Curriculum in Agricultural Education and Studies (Teacher Certification Option).

Required professional courses are:

AGEDS 110	Orientation	0.5
AGEDS 211A	High School Agriculture Programs	1
AGEDS 310	Foundations of Agricultural Education Programs	3
AGEDS 401	Planning Agriculture and Life Sciences Education Programs	3
AGEDS 402	Methods of Teaching in Agriculture and Life Sciences	3
AGEDS 416	Pre-Student Teaching Experience in Agricultural Education	1
AGEDS 417	Supervised Teaching in Agriculture and Life Sciences	1-16

Required content courses:

AGEDS 315	Personal, Professional, and Entrepreneurial Leadership in Agriculture	3
AGEDS 488	Methods of Teaching Agricultural Mechanics	3
AGRON 114	Principles of Agronomy	3
AGRON 154	Fundamentals of Soil Science	3
AN S 101	Working with Animals	2
AN S 114	Survey of the Animal Industry	2
HORT 221	Principles of Horticulture Science	3
ECON 101	Principles of Microeconomics	3
ECON 230	Farm Business Management	3
ACCT 284	Financial Accounting	3
NREM 120	Introduction to Renewable Resources	3

Biology

The Biology Program and the School of Education share the responsibility of preparing Biology teachers for grades 5-12.

Required professional courses are:

C I 280M	Pre-Student Teaching Experience: Secondary Science	1-2
C I 347	Nature of Science	3
C I 418	Secondary Science Methods I: A Research-Based Framework for Teaching Science	2
C I 419	Secondary Science Methods II	2
C I 468J	Supervised Practicum in Teaching: Secondary Science I	1-2
C I 468K	Supervised Practicum in Teaching: Secondary Science II	2
C I 417D	Student Teaching: Biological Sciences	arr †

C I 417D is cross listed with ENGL 417D/MUSIC 417D/WLC 417D

† Arranged with instructor.

Required content courses are:

BIOL 211	Principles of Biology I	3
BIOL 211L	Principles of Biology Laboratory I	1
BIOL 212	Principles of Biology II	3
BIOL 212L	Principles of Biology Laboratory II	1
BIOL 312	Ecology	4
BIOL 313	Principles of Genetics	3
BIOL 313L	Genetics Laboratory	1
BIOL 314	Principles of Molecular Cell Biology	3
BIOL 315	Biological Evolution	3

Additional courses to obtain a total of 18 credits at the 300 level or above in a basic biological science from approved program list. One semester length course in introductory/general chemistry with lab. One semester length course in introductory organic chemistry with lab. One semester length course in biochemistry. Two semester length courses in physics with labs. Six semester hours of mathematics and/or statistics.

Chemistry

The Department of Chemistry and the School of Education share the responsibility of preparing Chemistry teachers for grades 5-12.

Required professional courses are:

C I 280M	Pre-Student Teaching Experience: Secondary Science	1-2
C I 347	Nature of Science	3
C I 418	Secondary Science Methods I: A Research-Based Framework for Teaching Science	2
C I 419	Secondary Science Methods II	2
C I 468J	Supervised Practicum in Teaching: Secondary Science I	1-2
C I 468K	Supervised Practicum in Teaching: Secondary Science II	2
C I 417B	Student Teaching: Physical Sciences	arr †

† Arranged with instructor.

Required content courses are:

CHEM 177	General Chemistry I	4
CHEM 177L	Laboratory in General Chemistry I	1
CHEM 178	General Chemistry II	3
CHEM 178L	Laboratory in College Chemistry II	1
CHEM 211	Quantitative and Environmental Analysis	2
CHEM 211L	Quantitative and Environmental Analysis Laboratory	2
CHEM 301	Inorganic Chemistry	2
CHEM 316	Instrumental Methods of Chemical Analysis	2
CHEM 316L	Instrumental Analysis Laboratory	2
CHEM 324	Introductory Quantum Mechanics	3
CHEM 325	Chemical Thermodynamics	3
CHEM 321L	Laboratory in Physical Chemistry	2
or CHEM 322L	Laboratory in Physical Chemistry	
CHEM 331	Organic Chemistry I	3
CHEM 331L	Laboratory in Organic Chemistry I	1
CHEM 332	Organic Chemistry II	3

CHEM 332L	Laboratory in Organic Chemistry II	1
PHYS 221 & PHYS 222	Introduction to Classical Physics I and Introduction to Classical Physics II	10
or		
PHYS 111 & PHYS 112	General Physics and General Physics	10
MATH 165	Calculus I	4
MATH 166	Calculus II	4
Minimum of one course in BIOL is required		
BIOL 211 and BIOL 211L are recommended		

Students with an endorsement in a natural science who seek approval to teach chemistry as an additional subject area must earn credits in the following courses (15 minimum credits):

CHEM 177	General Chemistry I	4
CHEM 177L	Laboratory in General Chemistry I	1
CHEM 178	General Chemistry II	3
CHEM 178L	Laboratory in College Chemistry II	1
CHEM 211	Quantitative and Environmental Analysis	2
CHEM 211L	Quantitative and Environmental Analysis Laboratory	2
CHEM 331	Organic Chemistry I	3
CHEM 331L	Laboratory in Organic Chemistry I	1
CHEM 332	Organic Chemistry II	3
CHEM 332L	Laboratory in Organic Chemistry II	1
Or		
CHEM 163	College Chemistry	4
CHEM 163L	Laboratory in College Chemistry	1
CHEM 211	Quantitative and Environmental Analysis	2
CHEM 231	Elementary Organic Chemistry	3
CHEM 231L	Laboratory in Elementary Organic Chemistry	1

Students with no natural science endorsement who seek approval to teach chemistry as an additional subject area must complete one of the two sets of courses listed above plus sufficient additional courses to total 24 chemistry credits chosen from:

CHEM 316	Instrumental Methods of Chemical Analysis	2
CHEM 316L	Instrumental Analysis Laboratory	2
CHEM 324	Introductory Quantum Mechanics	3
CHEM 325	Chemical Thermodynamics	3
CHEM 322L	Laboratory in Physical Chemistry	3
BBMB 301	Survey of Biochemistry	3

Early Childhood Education

The School of Education and the Department of Human Development and Family Studies in the College of Human Sciences share the responsibility for preparing teachers to work with children from birth to age 8 (PK-3 including special education). Students receive two endorsements: Early Childhood Education (birth –grade 3, including special education) and Early Childhood Special Education (PK).

For specific course requirements, see College of Human Sciences, Curriculum in Early Childhood Education.

Earth Science

The Department of Geological and Atmospheric Sciences and the School of Education share the responsibility of preparing Earth Science teachers for grades 5-12.

Required professional courses are:

C I 280M	Pre-Student Teaching Experience: Secondary Science	1-2
C I 347	Nature of Science	3
C I 418	Secondary Science Methods I: A Research-Based Framework for Teaching Science	2
C I 419	Secondary Science Methods II	2
C I 468J	Supervised Practicum in Teaching: Secondary Science I	1-2
C I 468K	Supervised Practicum in Teaching: Secondary Science II	2
C I 417J	Student Teaching: Earth Sciences	arr †

† Arranged with instructor.

Required content courses are:

GEOL 100	The Earth	3
GEOL 100L	The Earth: Laboratory	1
GEOL 102	History of the Earth	3
GEOL 102L	History of the Earth: Laboratory	1
GEOL 302	Summer Field Studies	6
GEOL 315	Mineralogy and Earth Materials	3
GEOL 315L	Laboratory in Mineralogy and Earth Materials	1
GEOL 316	Optical Mineralogy	2
GEOL 356	Structural Geology	5
GEOL 365	Igneous and Metamorphic Petrology	3
GEOL 368	Stratigraphy and Sedimentation	4
Geology elective		
MTEOR 206	Introduction to Weather and Climate	3
ASTRO 120	The Sky and the Solar System	3
ASTRO 150	Stars, Galaxies, and Cosmology	3
CHEM 177	General Chemistry I	4
CHEM 177L	Laboratory in General Chemistry I	1
CHEM 178	General Chemistry II	3
CHEM 178L	Laboratory in College Chemistry II	1
PHYS 111	General Physics	5
PHYS 112	General Physics	5

One of the following:

MATH 151	Calculus for Business and Social Sciences	3
MATH 160	Survey of Calculus	4
MATH 165	Calculus I	4
MATH 181	Calculus and Mathematical Modeling for the Life Sciences I	4

One of the following:

STAT 101	Principles of Statistics	4
STAT 104	Introduction to Statistics	3
COM S 107	Applied Computer Programming	3
Biology course		3

Students with an endorsement in a natural science who seek approval to teach earth sciences as an additional subject area must earn 24 credits in the following courses:

GEOL 100	The Earth	3
GEOL 100L	The Earth: Laboratory	1
GEOL 102	History of the Earth	3
GEOL 102L	History of the Earth: Laboratory	1
MTEOR 206	Introduction to Weather and Climate	3
ASTRO 120	The Sky and the Solar System	3
ASTRO 150	Stars, Galaxies, and Cosmology	3
Additional Earth Science courses 300-level or above.		24

Students with no other natural science endorsement, but who seek endorsement in this area, must take:

GEOL 100	The Earth	3
GEOL 100L	The Earth: Laboratory	1
GEOL 102	History of the Earth	3
GEOL 102L	History of the Earth: Laboratory	1
MTEOR 206	Introduction to Weather and Climate	3
ASTRO 120	The Sky and the Solar System	3
ASTRO 150	Stars, Galaxies, and Cosmology	3
Additional Earth Science courses 300-level or above.		24

See licensure area coordinator for approval prior to taking courses.

Elementary Education

The School of Education in the College of Human Sciences is responsible for preparing elementary (K-6) teachers.

For specific course requirements, see College of Human Sciences, Curriculum in Curriculum and Instruction. Several endorsements may be added to a K-6 teaching license. See an adviser for the most current list and the necessary additional requirements.

English Education

The Department of English prepares English teachers for grades 5-12.

Required professional courses are:

C I 280A	Pre-Student Teaching Experience: Teacher Aide	0.5-2
C I 395	Teaching Reading in Middle and Secondary Schools	3
ENGL 396	Teaching the Reading of Young Adult Literature	3
ENGL 397	Practice and Theory of Teaching Writing in the Secondary Schools	3
ENGL 494	Practice and Theory of Teaching Literature in the Secondary Schools	3
ENGL 417E	Student Teaching: English and Literature	arr †

† Arranged with instructor.

Required content courses are: see Curriculum, English.

Students seeking to add English as an additional endorsement area must earn 46 credits in the following courses:

Advanced Writing (one of the following):		3
ENGL 302	Business Communication	3
ENGL 303	Free-Lance Writing for Popular Magazines	3
ENGL 304	Creative Writing--Fiction	3
ENGL 305	Creative Writing--Nonfiction	3
ENGL 306	Creative Writing--Poetry	3
ENGL 309	Report and Proposal Writing	3
ENGL 314	Technical Communication	3
ENGL 315	Creative Writing--Screenplays	3
ENGL 316	Creative Writing--Playwriting	3
Rhetoric (one of the following):		
ENGL 310	Rhetorical Analysis	3
ENGL 339	Literary Theory and Criticism	3
Speech Communication course at the 300 or 400 level		3
Language		
ENGL 220	Descriptive English Grammar	3
Literature		
ENGL 225	Survey of British Literature to 1800	3
ENGL 226	Survey of British Literature since 1800	3
ENGL 227	Survey of American Literature to 1865	3
ENGL 228	Survey of American Literature since 1865	3
ENGL 260	Introduction to Literary Study	3
ENGL 340	Women's Literature	3
ENGL 353	World Literature: Western Foundations through Renaissance	3

or

ENGL 354	World Literature: Seventeenth Century to the Present	
English Education		
C I 395	Teaching Reading in Middle and Secondary Schools	3
ENGL 396	Teaching the Reading of Young Adult Literature	3
ENGL 397	Practice and Theory of Teaching Writing in the Secondary Schools	3.5-5
& C I 280A	and Pre-Student Teaching Experience: Teacher Aide	
ENGL 494	Practice and Theory of Teaching Literature in the Secondary Schools	3.5-5
& C I 280A	and Pre-Student Teaching Experience: Teacher Aide	
SP ED 401	Teaching Secondary Students with Exceptionalities in General Education	3

Students must earn grades of C or better in all of the above courses.

Family and Consumer Sciences

The Family and Consumer Sciences Program in the Department of Apparel, Educational Studies and Hospitality Management prepares Family and Consumer Sciences teachers for grades 5-12

For specific content area course requirements, see Curriculum, Family and Consumer Sciences Education and Studies.

Required professional courses are:

FCEDS 280A	Pre-Student Teaching Experience in FCS Education: Practicum in FCS Labs (24 hours)	1
FCEDS 280B	Pre-Student Teaching Experience in FCS Education: Practicum in Diverse Settings (24 hours)	1
FCEDS 306	Educational Principles for Family and Consumer Sciences	4
FCEDS 206	Professional Roles in Family and Consumer Sciences	2
FCEDS 418	Occupational, Career and Technical Programs	3
FCEDS 413	Planning and Assessment for Family and Consumer Sciences and Family Life Education	4
FCEDS 417A	Supervised Teaching in Family and Consumer Sciences: 3-8 Vocational family and consumer sciences.	3-8
FCEDS 417B	Supervised Teaching in Family and Consumer Sciences: 3-8 Family and consumer sciences.	3-8

For specific content area course requirements, see Curriculum, in Family and Consumer Sciences Education and Studies.

Health Education

The Department of Kinesiology prepares Health teachers for grades 5-12.

Required professional courses are:

H S 375	Teaching-Learning Process in Health Education	3
H S 417	Supervised Teaching in Health Education in the Secondary School	12

Required content courses are:

KIN 258	Physical Fitness and Conditioning	2
H S 105	First Aid and Emergency Care	2
H S 110	Personal and Consumer Health	3
H S 215	Drug Education	3
H S 305	Instructor's First Aid and Cardio-pulmonary Resuscitation	2
H S 310	Community and Public Health	3
H S 350	Human Diseases	3
H S 390	Administration of the School Health Program	3
FS HN 167	Introduction to Human Nutrition	3
HD FS 276	Human Sexuality	3
HD FS 373	Death as a Part of Living	3
or HD FS 377	Aging and the Family	
BIOL 155	Human Biology	3
or BIOL 255	Fundamentals of Human Anatomy	
BIOL 255L	Fundamentals of Human Anatomy Laboratory	1
BIOL 256	Fundamentals of Human Physiology	3
BIOL 256L	Fundamentals of Human Physiology Laboratory	1

Students seeking approval for health education as an additional endorsement area must earn credits in the following courses:

FS HN 167	Introduction to Human Nutrition	3
HD FS 276	Human Sexuality	3
H S 110	Personal and Consumer Health	3
H S 215	Drug Education	3
H S 305	Instructor's First Aid and Cardio-pulmonary Resuscitation	2
H S 310	Community and Public Health	3
H S 350	Human Diseases	3
H S 375	Teaching-Learning Process in Health Education	3
H S 390	Administration of the School Health Program	3
or BIOL 255	Fundamentals of Human Anatomy	
BIOL 155	Human Biology	3
or BIOL 255	Fundamentals of Human Anatomy	
BIOL 255L	Fundamentals of Human Anatomy Laboratory	1
BIOL 256	Fundamentals of Human Physiology	3
BIOL 256L	Fundamentals of Human Physiology Laboratory	1

History-Social Sciences

The Curriculum and Instruction Department and the History Department share the responsibility for preparing History-Social Sciences teachers for grades 5-12.

The department has specific class distribution requirements for the U.S. and world history endorsements.

Contact the History Department for specific information.

History-Social Sciences Education students must earn grades of B- or better in all content courses (with a minimum of a 2.75 GPA), as well as a C or better in pedagogical coursework required for teacher licensure.

Mathematics

The Mathematics Department and the School of Education share responsibility for the preparation of Mathematics teachers for grades 5-12.

For specific content area course requirements, contact the School of Education.

Required professional courses are:

C I 219	Orientation to Teacher Education: Math, Science, FCS Education, and History/Social Science Majors	1
C I 280A	Pre-Student Teaching Experience: Teacher Aide	0.5-2
C I 280L	Pre-Student Teaching Experience: Early Field Experience	0.5-2
C I 480C	Field Experience for Secondary Teaching Preparation: Mathematics	0.5-2
C I 497	Teaching Secondary School Mathematics	3
C I 417C	Student Teaching: Mathematics	arr †

† Arranged with instructor.

Required content courses are:

MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 201	Introduction to Proofs	3
MATH 265	Calculus III	4
MATH 266	Elementary Differential Equations	3
or MATH 267	Elementary Differential Equations and Laplace Transforms	3
MATH 301	Abstract Algebra I	3
MATH 317	Theory of Linear Algebra	4
MATH 341	Introduction to the Theory of Probability and Statistics I	3
MATH 397	Teaching Secondary Mathematics Using University Mathematics	3
MATH 435	Geometry I	3
MATH 436	Geometry II	3
STAT 101	Principles of Statistics	4

One of the following:

COM S 107	Applied Computer Programming	3
COM S 207	Fundamentals of Computer Programming	3
COM S 227	Introduction to Object-oriented Programming	4

Students who are pursuing mathematics as an additional endorsement must major in one of the mathematical sciences, physical sciences, or engineering. These students must take the following:

MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 201	Introduction to Proofs	3
MATH 301	Abstract Algebra I	3
MATH 317	Theory of Linear Algebra	4
MATH 341	Introduction to the Theory of Probability and Statistics I	3
MATH 397	Teaching Secondary Mathematics Using University Mathematics	3
MATH 435	Geometry I	3
MATH 436	Geometry II	3
STAT 101	Principles of Statistics	4
C I 480C	Field Experience for Secondary Teaching Preparation: Mathematics	0.5-2
C I 497	Teaching Secondary School Mathematics	3

One of the following:

COM S 107	Applied Computer Programming	3
COM S 207	Fundamentals of Computer Programming	3
COM S 227	Introduction to Object-oriented Programming	4

Music

The Music Department prepares Music teachers for grades K-12.

For specific content area course requirements, see Curriculum, in Music.

Required professional courses are:

MUSIC 248	Technology in Music Instruction	2
MUSIC 266	Introduction to Music Education	2
MUSIC 366	Methods of Music Education	2
One of the following:		
MUSIC 367	Choral Literature	2
MUSIC 368	Marching Band and Jazz Ensemble Techniques	2
MUSIC 417R	Student Teaching: Music-Elementary	arr †
MUSIC 417S	Student Teaching: Music-Secondary	arr †
MUSIC 464	Instrumental Administration, Materials, and Methods	2
MUSIC 465	Choral Materials and Methods	2
MUSIC 490A	Independent Study: Education	arr †

† Arranged with instructor.

For required content courses are see Curriculum, in Music.

Physical Education

The Kinesiology Department prepares Physical Education teachers for grades K-12.

Kinesiology and Health

Required professional courses:

KIN 280	Directed Field Experience in Elementary Physical Education	1
KIN 281	Directed Field Experience in Physical Education	1
KIN 312	Movement Education in Elementary School Physical Education	3
KIN 313	Secondary Physical Education Methods	3
KIN 395	Adapted Physical Education	3
KIN 418	Supervised Teaching in Physical Education in the Elementary School	8
KIN 417	Supervised Teaching in Physical Education in the Secondary School	arr †
KIN 471	Measurement in Physical Education	3
KIN 475	Physical Education Curriculum Design and Program Organization	3

† Arranged with instructor.

Required content courses are: see Curriculum, Kinesiology and Health

Physics

The Physics and Astronomy Department and the School of Education share the responsibility for preparing Physics teachers for grades 5-12.

Required professional courses:

C I 280M	Pre-Student Teaching Experience: Secondary Science	1-2
C I 347	Nature of Science	3
C I 417B	Student Teaching: Physical Sciences	arr †
C I 418	Secondary Science Methods I: A Research-Based Framework for Teaching Science	2
C I 419	Secondary Science Methods II	2
C I 468J	Supervised Practicum in Teaching: Secondary Science I	1-2
C I 468K	Supervised Practicum in Teaching: Secondary Science II	2

† Arranged with instructor.

Required content courses:

PHYS 221	Introduction to Classical Physics I	5
PHYS 222	Introduction to Classical Physics II	5
PHYS 311T	Intermediate Laboratory for Secondary Physics Teachers	3
PHYS 399	Seminar on Secondary School Physics	1-2
PHYS 321	Introduction to Modern Physics I	3

12 credits from the following:		
PHYS 302	The Challenge of Contemporary Physics	3
PHYS 304	Thermal Physics	3
PHYS 306	Physics of Wave Motion	3
PHYS 310	Electronic Instrumentation for Experimental Physics	4
PHYS 321	Introduction to Modern Physics I	3
PHYS 321L	Introductory Laboratory in Modern Physics I	1
PHYS 322	Introduction to Modern Physics II	3
PHYS 322L	Introductory Laboratory in Modern Physics II	1
PHYS 361	Classical Mechanics	3
PHYS 362	Intermediate Mechanics	3
PHYS 364	Electricity and Magnetism I	3
PHYS 365	Electricity and Magnetism II	3
PHYS 496	Modern Optics	3
ASTRO 342	Introduction to Solar System Astronomy	3
ASTRO 344L	Astronomy Laboratory	3
ASTRO 346	Introduction to Astrophysics	3
CHEM 324	Introductory Quantum Mechanics	3
CHEM 325	Chemical Thermodynamics	3
E E 201	Electric Circuits	4
E E 230	Electronic Circuits and Systems	4
E M 274	Statics of Engineering	3
E M 345	Dynamics	3
E M 378	Mechanics of Fluids	3
M E 231	Engineering Thermodynamics I	3

Students with an endorsement in a natural science who seek approval to teach physics as an additional endorsement area must complete one of the following sets of courses:

PHYS 221	Introduction to Classical Physics I	5
PHYS 222	Introduction to Classical Physics II	5
PHYS 311T	Intermediate Laboratory for Secondary Physics Teachers	3
PHYS 321	Introduction to Modern Physics I	3
PHYS 321L	Introductory Laboratory in Modern Physics I	1
Seminar on Secondary Scholl Physics		2

or

PHYS 111	General Physics	5
PHYS 112	General Physics	5
PHYS 302	The Challenge of Contemporary Physics	3
PHYS 311T	Intermediate Laboratory for Secondary Physics Teachers	3
Seminar on Secondary School Physics		2
PHYS 399	Seminar on Secondary School Physics	1-2

Students with no other natural science endorsement who seek approval to teach physics as an additional endorsement area must complete one of the two sets of courses listed above plus sufficient additional credits from the following list of courses to total 24 credits:

PHYS 302	The Challenge of Contemporary Physics	3
PHYS 304	Thermal Physics	3
PHYS 306	Physics of Wave Motion	3
PHYS 310	Electronic Instrumentation for Experimental Physics	4
PHYS 321	Introduction to Modern Physics I	3
PHYS 321L	Introductory Laboratory in Modern Physics I	1
PHYS 322	Introduction to Modern Physics II	3
PHYS 322L	Introductory Laboratory in Modern Physics II	1
ASTRO 342	Introduction to Solar System Astronomy	3
ASTRO 344L	Astronomy Laboratory	3
ASTRO 346	Introduction to Astrophysics	3
CHEM 324	Introductory Quantum Mechanics	3
CHEM 325	Chemical Thermodynamics	3
E E 442	Introduction to Circuits and Instruments	2
E M 274	Statics of Engineering	3

E M 345	Dynamics	3
E M 378	Mechanics of Fluids	3
M E 332	Engineering Thermodynamics II	3

World Languages

The Department of World Languages and Cultures prepares World Language teachers for grades 5-12.

World Language teachers can earn an endorsement in French, German or Spanish.

For specific content area course requirements, see Curriculum, World Languages and Cultures.

Required professional courses are:

C I 280A	Pre-Student Teaching Experience: Teacher Aide	0.5-2
WLC 417G	Student Teaching: World Language	arr †
WLC 487	Methods in Secondary School World Language Instruction	3
C I 280L	Pre-Student Teaching Experience: Early Field Experience	0.5-2

† Arranged with instructor.

Students seeking approval to teach a world language as their first endorsement must have a major in the target language. For an additional endorsement in a world language, students must earn 25 credits in that language. Nine (9) credits must be at the 300 level or above with six (6) of these credits in composition and conversation. Courses at the 100 level are not counted in the 25 required credits. For an endorsement in Latin, 10 of the 25 credits must be at the 300 or 400 level and must include Hist 430 (CI St 403). All students seeking to teach a world language must demonstrate their proficiency in the language by taking the ACTFL OPI (Oral Proficiency Interview). Students are responsible for the cost of the administration of the OPI and must request that their scores from the OPI be added to their transcript.

Requirements for Additional Endorsements

Students may elect to add additional endorsements to their teaching license by completing the necessary requirements. All "Undergraduate Teacher Licensure Areas" listed above can be pursued as an additional endorsement. Below are the additional endorsements only options that require students to pursue one of the undergraduate, post-bachelor's or graduate teacher licensure areas listed above. Detailed requirements for any endorsement may be obtained from Teacher Education Services (located in 133 MacKay).

Art (grades K-8)

Students seeking an additional endorsement in Art (K-8) should see an adviser in the School of Education.

Basic Science (grades K-8)

Students seeking an additional endorsement in Basic Science (K-8) should see an adviser in the School of Education.

Coaching Interscholastic Athletics (grades K-12)

The Department Kinesiology offers courses that can lead to a K-12 athletic coach endorsement. Students seeking approval for the Iowa State University endorsement to coach interscholastic athletics must satisfy the requirements of an endorsement area listed above and earn credits in the following (to meet state minimum requirements).

BIOL 155	Human Biology	3
PSYCH 230	Developmental Psychology	3
A TR 220	Basic Athletic Training	2
KIN 315	Coaching Theory and Administrative Issues	3

Chinese (grades K-8)

Students seeking an additional endorsement in Chinese (K-8) should see an adviser in the School of Education.

Chinese (grades 5-12)

Students seeking an additional endorsement in Chinese (5-12) should see the coordinator in the Department of World Languages and Cultures.

English and Language Arts (grades K-8)

Students seeking an additional endorsement in English and Language Arts (K-8) should see an adviser in the School of Education.

English as a Second Language (grades K-12)

The Department of English offers courses that can lead to a K-12 ESL Teacher endorsement.

To add a K-12 teaching endorsement in English as a Second Language, students must fulfill the requirements of an endorsement area listed above and earn credits in the following courses. In some cases, relevant special topics courses or experimental courses may be substituted. Some courses have prerequisites.

ENGL 219	Introduction to Linguistics	3
or ENGL 511	Introduction to Linguistic Analysis	
ENGL 220	Descriptive English Grammar	3
ENGL 425	Second Language Learning and Teaching	3
or ENGL 512	Second Language Acquisition	
ENGL 514	Sociolinguistics	3
or C I 420	Bilingualism, Bilingual Education, and U.S. Mexican Youth	
ENGL 518 & ENGL 524	Teaching English as a Second Language Methods and Materials and Literacy: Issues and Methods for Nonnative Speakers of English	6
or		
ENGL 524 & ENGL 525	Literacy: Issues and Methods for Nonnative Speakers of English and Methods in Teaching Listening and Speaking Skills to Nonnative Speakers of English	6
ENGL 588	Supervised Practice Teaching in Teaching English as a Second Language	3

Basic Science (grades 5-12)

Basic Science is an interdepartmental additional area of endorsement for grades 5-12

Students seeking approval to teach general science must earn credits in the following courses:

BIOL 211	Principles of Biology I	3
BIOL 211L	Principles of Biology Laboratory I	1
BIOL 212	Principles of Biology II	3
BIOL 212L	Principles of Biology Laboratory II	1
CHEM 177	General Chemistry I	4
CHEM 177L	Laboratory in General Chemistry I	1
CHEM 178	General Chemistry II	3
CHEM 178L	Laboratory in College Chemistry II	1
CHEM 231	Elementary Organic Chemistry	3
CHEM 231L	Laboratory in Elementary Organic Chemistry	1
GEOL 100	The Earth	3
GEOL 100L & PHYS 112	The Earth: Laboratory and General Physics	6
PHYS 111	General Physics	5
or		
PHYS 221 & PHYS 222	Introduction to Classical Physics I and Introduction to Classical Physics II	10
One of the following:		
MATH 151	Calculus for Business and Social Sciences	3
MATH 160	Survey of Calculus	4
MATH 165	Calculus I	4
MATH 181	Calculus and Mathematical Modeling for the Life Sciences I	4

At least 6 credits from courses numbered 300 or above in astronomy and astrophysics, biochemistry and biophysics, biology, botany, chemistry, genetics, geology, meteorology, microbiology, or physics.

Health (grades K-8)

Students seeking an additional endorsement in Health (K-8) should see an adviser in the School of Education.

History (grades K-8)

Students seeking an additional endorsement in History (K-8) should see an adviser in the School of Education.

Latin (grades 5-12)

Students seeking an additional endorsement in Latin (5-12) should see the coordinator in the Department of World Languages and Cultures.

Mathematics (grades K-8)

Students seeking an additional endorsement in mathematics (K-8) should see an adviser in the School of Education.

Reading (grades K-8, 5-12)

The School of Education offers courses that can lead to a reading endorsement for grades K-8. This department collaborates with the English Department to offer the necessary coursework for a 5-12 reading endorsement.

Students seeking an additional endorsement to teach elementary reading (K-8) should see a School of Education adviser.

Students seeking endorsement to teach reading (5-12) as an additional endorsement must earn credits in the following courses:

Foundations of Reading and Reading in the Content Area		
C I 395	Teaching Reading in Middle and Secondary Schools	3
or C I 551	Foundations of Reading and Language Arts	
C I 494	Practice and Theory of Teaching Literature in the Secondary Schools	3
Practicum		
C I 588	Supervised Tutoring in Reading	3
Language Development		
ENGL 219	Introduction to Linguistics	3
or ENGL 511	Introduction to Linguistic Analysis	
Reading Assessment and Oral Communication		
C I 452	Corrective Reading	3
Written Communication		
C I 395	Teaching Reading in Middle and Secondary Schools	3
ENGL 397	Practice and Theory of Teaching Writing in the Secondary Schools	3
Adolescent Nonfiction and Fiction		
ENGL 396	Teaching the Reading of Young Adult Literature	3
or C I 554	Reading and Responding to Children's Literature	
Reading Instrumental Strategies		
C I 456	Integrating Technology into the Reading and Language Arts Curriculum	3
or C I 553	Teaching Struggling Adolescent Readers	

Russian (grades 5-12)

Students seeking an additional endorsement in Russian (5-12) should see the coordinator in the Department of World Languages and Cultures.

Social Sciences (grades K-8)

Students seeking an additional endorsement in Social Sciences (K-8) should see an adviser in the School of Education.

Special Education (grades K-8, 5-12, ages 5-21)

The School of Education offers courses that can lead to special education endorsements (Instructional Strategist I: Mild/Moderate Disabilities (grades K-8 and grades 5-12) and Instructional Strategist II: Behavior Disorders/Learning Disabilities (ages 5-21)). Students seeking special education endorsements at the graduate level must have a current teaching license.

Elementary Education students seeking an additional K-8 endorsement to teach special education should see an adviser in the School of Education.

Speech/Theatre (grades 5-12)

The Department of Speech Communication offers courses that can lead to 5-12 speech/theatre endorsement.

Students seeking endorsement to teach speech as an additional area must earn credits in the following courses:

SP CM 110	Listening	3
or COMST 102	Introduction to Interpersonal Communication	
SP CM 212	Fundamentals of Public Speaking	3
SP CM 313	Communication in Classrooms and Workshops	3
SP CM 322	Argumentation, Debate, and Critical Thinking	3
SP CM 412	Rhetorical Criticism	3
SP CM 495A	Independent Study: Directing Speech Activities	1

SP CM 495B	Independent Study: Teaching Speech	3
THTRE 255	Introduction to Theatrical Production	4
THTRE 358	Oral Interpretation	3
THTRE 360	Stagecraft	4
THTRE 455	Directing I	3
THTRE 357	Stage Make-up	2
JL MC 101	Mass Media and Society	3

World Languages and Cultures (French, German, Latin, Russian, and Spanish) (grades K-8)

Students seeking an additional endorsement World Languages and Cultures (K-8) should see an adviser in the School of Education.