

Teaching and Learning, M.A.T.

Learning Outcomes

Students will:

- demonstrate understanding of the central concepts, tools of inquiry, and structures of the discipline to be taught;
- plan discipline-specific and ethical instruction and assessment that reflect research and theory in education and their discipline;
- implement discipline-specific and ethical instruction and assessment using a variety of methods of teaching, instructional strategies, and pedagogical tools;
- demonstrate understanding of learner development and learning differences that vary across the cognitive, linguistic, social, emotional, and physical areas, as well as diverse cultures and communities; and
- express ideas effectively in written and spoken communication in collaboration with university and school professionals.

Art Education

The Master of Arts in Teaching in teaching and learning with an art education subprogram requires a minimum of 58 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed primarily for graduates of baccalaureate degree programs in art who would like to become teachers but have no previous coursework in education. It features advanced work in art along with the courses required for certification. Additional art coursework may be advised to render a student's degree equivalent to one from the University of Iowa and to fulfill licensure requirements. Successful completion of the program enables students to receive a credential to teach art in grades K-12. Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with an art education subprogram requires the following work.

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:3143	Methods of Elementary Art and Field Experiences	3
EDTL:3204	Art Education Studio and Field Components	3
EDTL:3205	Methods of Secondary Art and Field Experience	3
EDTL:3290	Introduction and Practicum: Art	3

EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4192	Special Area Student Teaching	6
EDTL:4900	Foundations of Special Education	3
EDTL:5222	Creativity, Imagination, Play, and Human Development Through the Arts (must be taken during student's first semester in the college)	3
EDTL:6267	Seminar: Current Issues in Art Education	4
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3
Graduate-level coursework in art studio or art history or a related area (consult advisor)		6
Total Hours		58

The coursework in art studio or art history or a related field may contribute to licensure requirements. Other art licensure requirements may be taken prior to or in addition to the courses listed above. To be considered for a teaching assistant (TA) position, students must take EDTL:7380 Practicum in College Teaching for 1 s.h. after their first semester in the program and after completion of EPLS:3000 Foundations of Education, EPLS:4180 Human Relations for the Classroom Teacher, and PSQF:6200 Educational Psychology, and a course in creativity, imagination, and play: human development through art.

Comprehensive Examination

Students complete comprehensive examinations before their student teaching semester. The comprehensive examination involves a reflective project supervised by art education faculty. The project encompasses issues explored throughout the course of study and can involve inquiry through studio work or practice. For deadlines, checklist, and instructions, see Graduate Exams on the Office of Student Services website.

TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning with the art education subprogram.

Admission

Applicants must meet the admission requirements of the Graduate College. They should have completed a baccalaureate degree program in art, equivalent to that which is offered through the College of Liberal Arts and Sciences at the University of Iowa, with an undergraduate g.p.a. of at least 3.00. Candidates also must meet all Teacher Education Program (TEP) application requirements. Since the M.A.T. is

a credentialing program, candidates must not have qualified previously for a credential.

English Education

The Master of Arts in Teaching in teaching and learning with an English education subprogram requires a minimum of 45 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed for students who have an undergraduate degree in English and few or no professional education courses. Successful completion of the program enables students to receive a credential to teach English in secondary schools. Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with an English education subprogram requires the following work.

English

Code	Title	Hours
All of these:		
EDTL:3382	Language and Learning	3
EDTL:3393	Reading and Teaching Adolescent Literature	3
EDTL:4355	Approaches to Teaching Writing	3
EDTL:6315	M.A. Seminar: English Education	arr.

Students may take the following English courses as part of the M.A.T. program or as part of their undergraduate program:

A course in Shakespeare

Three courses in American literature

A course in British literature

A course in nonfiction or creative writing, in addition to EDTL:4355

Education

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	arr.
EDTL:4092	Observation and Laboratory Practice in the Secondary School	arr.
EDTL:4314	Introduction and Practicum: Secondary English (must be completed before enrollment in EDTL:4315 and EDTL:4394)	3

EDTL:4315	Learning to Teach Secondary English/Language Arts and Field Experience	3
EDTL:4394	Secondary Reading Instruction	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3

Comprehensive Examination

The comprehensive examination involves a series of reflective projects supervised by English education faculty. The projects encompass issues explored throughout the course of study and involve integration of theory and practice.

TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (English education).

Admission

Applicants must meet the admission requirements of the Graduate College. They must have been granted a B.A. in English or the equivalent, with an undergraduate g.p.a. of at least 3.00. They also must meet all Teacher Education Program (TEP) application requirements. Since the M.A.T. is a credentialing program, candidates must not have qualified previously for a credential. Applicants are expected to have no more than 6 s.h. of coursework in professional education courses before admission.

Mathematics Education

The Master of Arts in Teaching in teaching and learning with a mathematics education subprogram requires a minimum of 48 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed primarily for students who decide they would like to become teachers and have already completed a B.S. or B.A. in mathematics. It features advanced work in mathematics along with the courses required for certification. It is a means by which students can obtain both a master's degree and certification. It is assumed that students have completed a baccalaureate degree in mathematics equivalent to one that would be completed at the University of Iowa, but has no previous coursework in education. More coursework may be advised if there are mathematics courses a student has not taken as part of the undergraduate mathematics baccalaureate degree program to render the student's degree equivalent to one from the University of Iowa.

Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with a mathematics education subprogram requires the following work.

Education

Code	Title	Hours
The first three courses should be taken during the first semester of registration:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
All of these:		
EDTL:3532	Introduction and Practicum: Mathematics	3
EDTL:3534	Methods: Middle School Mathematics	3
EDTL:4535	Methods: High School Mathematics	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3
One additional graduate-level mathematics education course in consultation with an advisor		
The following courses are taken concurrently and constitute the student teaching semester:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

Graduate Mathematics Requirements

Code	Title	Hours
At least one of these:		
MATH:4050	Introduction to Discrete Mathematics	3
MATH:4060	Discrete Mathematical Models	3
MATH:4120	History of Mathematics	3

Comprehensive Examination

The comprehensive exam includes a required two-part exam in mathematics and mathematics education. At the discretion of the examining committee, this exam may consist of two parts and is both written and oral. The mathematics and mathematics education comprehensive examinations will not duplicate course examinations, but will assess both mathematics education and the mathematics specialization area chosen by a student.

Admission

Applicants must meet the admission requirements of the Graduate College. They also must meet all Teacher Education Program (TEP) application requirements. Candidates should have completed a baccalaureate degree program in mathematics equivalent to that which is offered through the College of Liberal Arts and Sciences at the University of Iowa. An undergraduate g.p.a. of at least 3.00 is required for admission and must be maintained throughout the enrollment period.

Combined Program

B.A. in Mathematics/M.A.T.

The College of Liberal Arts and Sciences and the College of Education offer students the opportunity to earn their Bachelor of Arts in mathematics/Master of Arts in Teaching degree in education with a mathematics education subprogram in as little as five years.

The Combined B.A./M.A.T. (4+1) program is a seamless process whereby students can progress from undergraduate to graduate status. The usual period of study for both the Bachelor of Arts and the Master of Arts in Teaching degree is six years. Through careful planning, many of the courses required for the M.A.T. program can be taken during the undergraduate years, creating an opportunity to focus the fifth year of study on the comprehensive and student teaching requirements. Visit B.A./M.A.T. Mathematics Education on the College of Education website.

Admission

Students are eligible to apply to the 4+1 program during their sophomore or junior year if they have a cumulative g.p.a. of at least 3.25 or if they meet special considerations. Application materials must include a completed application to the Teacher Education Program (TEP), two recommendations from University of Iowa faculty, a career plan describing how this program will enhance the student's scholarly and or career goals, and an unofficial transcript of student's prior work.

Students who submit completed applications will be notified within 30 days if they have been accepted into the program. The program accepts a limited number of students each year on a competitive basis. Once accepted into the program, a student meets with an advisor to select an advisory committee to plan a course of study.

During the sixth semester, a student in the program who has completed 80 s.h. of undergraduate work and maintained a 3.00 minimum g.p.a. must apply to the Graduate College. Application to the Graduate College must include a completed Graduate College application form, a letter of application/statement of purpose, one additional letter of recommendation from a faculty member in the mathematics major, Graduate Record Exam (GRE) General Test scores (however, the GRE requirement has been suspended for the 2022-23 admissions cycle), and Test of English as a Foreign Language (TOEFL) test scores for international students.

Students are granted undergraduate/graduate credit for coursework during the seventh semester; they begin paying graduate tuition during the eighth semester until completion of the program. The baccalaureate degree must be conferred at the end of the eighth semester or in the program's fourth year.

Science Education

The Master of Arts in Teaching in teaching and learning with a science education subprogram requires a minimum of 48 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed primarily for graduates of bachelor's degree programs in science who decide that they would like to become teachers. It features advanced work in science along with the courses required for certification, enabling students to earn a master's degree and teaching certification at the same time. It is assumed that students have completed considerable coursework in science (at least 56 s.h.) as undergraduates, but no previous coursework in education. Students' science coursework should be equivalent to that required by the University of Iowa Science Education program.

Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with a science education subprogram requires the following work.

Professional Education Foundation Sequence

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
One of these:		
PSQF:1075	Educational Psychology and Measurement	3
PSQF:6200	Educational Psychology	3
Science education courses taken in the following sequence:		
EDTL:4751	Learning in the Science, Technology, Engineering, and Mathematics (STEM) Classroom	2
EDTL:4752	Secondary Science Methods II with Field Experience	3
These two taken concurrently:		
EDTL:4753	Secondary Science Methods III with Field Experience	3
EDTL:4779	Secondary School Science Practicum	2
These three taken concurrently:		

EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

Electives

A minimum of one graduate course in biology, chemistry, earth science, or physics is required. Students who have satisfied portions of the required science coursework listed above must take additional science coursework to meet the minimum requirement of 48 s.h. of credit.

Comprehensive Examination

Students complete comprehensive examinations before their student teaching semester. Two written comprehensive exams, one in science education and one in a science specialization area, are required. Students may not duplicate course examinations in these areas.

TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (science education).

Admission

Applicants must meet the admission requirements of the Graduate College. They must have a bachelor's degree with a major or the equivalent in one of the sciences. A g.p.a. of at least 3.00 is required for admission and must be maintained throughout the program. Applicants must meet all Teacher Education Program (TEP) application requirements.

Combined Program

B.A./M.A.T.

College of Liberal Arts and Sciences students who want to teach science and are working toward a Bachelor of Arts degree with a major in biology, chemistry, environmental sciences, or physics may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. The combined program enables students to earn a B.A. and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 19 s.h. of qualifying credit toward both degrees.

B.A. students are admitted to the combined program before their fourth year. They may begin taking education courses during their third year, but they may not earn graduate credit for them until their fourth and fifth years, after they have been admitted to the combined program. Students take 30 s.h. of coursework during the fifth year and must complete all remaining requirements for both degrees that year.

Science Specialization (Broad Field Science Block)

The following courses are required for the undergraduate degree in science studies at the University of Iowa. They need not be repeated by M.A.T. candidates who need one or more advanced courses in their major science area, or by students from other interdisciplinary science discipline programs that prepare teachers for grades 6-9.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	4
Two of these (unless completed during undergraduate study):		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	4
SIED:4103	Societal and Educational Applications of Biological Sciences	4
SIED:4105	Societal and Educational Applications of Physical Sciences	4
SIED:4106	Societal and Educational Applications of Chemical Concepts	4

Education courses required for the combined program are listed under "Combined Program" above. Requirements for the B.A. degree are listed under the B.A. in biology, B.A. in chemistry, B.A. in environmental sciences, and B.A. in physics (College of Liberal Arts and Sciences) in the Catalog.

Social Studies Education

The Master of Arts in Teaching in teaching and learning with a social studies subprogram requires at least 47 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program provides an opportunity for interdisciplinary work in education, history, social science, or related areas. It is for students who have a bachelor's degree in history or a social science (or considerable coursework in one of the areas) and who wish to obtain a teaching license/certificate while earning the M.A.T. degree. Students must apply to both the Graduate College and the College of Education.

Requirements

Students should have completed considerable work in the social sciences and/or history as undergraduates. Students in the College of Education's Teacher Education Program (TEP) for secondary education in social studies may not apply credit they have earned as undergraduates in required licensure courses to the 38 s.h. required for the M.A.T., even though the credit counts toward state teaching licensure.

Students who completed EDTL:4811 Introduction and Practicum: Secondary Social Studies and/or EDTL:4870 Methods: Secondary Social Studies as undergraduate or postbaccalaureate students at the University of Iowa are required to retake these courses during the M.A.T. program and before student teaching. Required teaching licensure coursework completed at other colleges or universities is reviewed on a case-by-case basis.

For licensure, students must complete 30 s.h. in a history or social science area; the 30 s.h. may include previous undergraduate and/or graduate-level coursework. Required professional education coursework not completed as part of the baccalaureate degree must be completed for licensure.

Students also must complete 15 s.h. in an additional history or social science licensure area; previous undergraduate coursework may apply.

Of the total semester hours required for the M.A.T., students must earn at least 8 s.h. in courses numbered 6000 or above in social studies education and a minimum of 9 s.h. of graduate coursework in history or a social science area. Students should take at least one course taught by the instructor who will serve on the examining committee in the history or social science area.

Students must complete all of the following professional education courses, unless they completed some of them as part of their bachelor's degree. In such cases, the semester-hour requirement is reduced accordingly, but it never is below 47 s.h. Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

Professional Education Courses

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6
EDTL:4811	Introduction and Practicum: Secondary Social Studies	3
EDTL:4870	Methods: Secondary Social Studies	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3

Comprehensive Examination

Candidates select one faculty member from each concentration area to serve as a committee member responsible for creating and reviewing a question for the written exam. Committee members are selected in consultation with a candidate's advisor. The required

comprehensive examination consists of three two-hour written exams, one on each of the three concentration fields.

TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (social studies education).

Admission

Applicants must meet the admission requirements of the Graduate College. They should have a bachelor's degree in education, history, or one of the social sciences from an accredited institution; a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 3.00 in history and/or social science courses; and two letters of recommendation. Evidence of writing ability in a completed major paper or essay also is required.

World Language Education

The Master of Arts in Teaching in teaching and learning with a world language education subprogram requires a minimum of 54 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed for superior liberal arts and sciences graduates who have had few or no professional education courses. Successful completion of the program leads to elementary and/or secondary teacher licensure. The M.A.T. is available in Chinese, French, German, Japanese, Latin, Russian, and Spanish languages.

Students must take 24 s.h. of post-secondary coursework in their language of licensure to obtain their teaching license. This work can be taken prior to entry into this program as part of an undergraduate degree program. Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with a world language education subprogram requires the following work. Students also must complete at least 9 s.h. in graduate coursework either in the language department corresponding to their language of licensure or in world language teaching.

Professional Education

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1,3
EDTL:4900	Foundations of Special Education	3

EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3

World Language Teaching

Students complete these courses (at least 28 s.h.).

Code	Title	Hours
All of these:		
EDTL:4406	World Language Practicum I	3
EDTL:4407	World Language Practicum II	3
EDTL:4416	Learning to Teach Second Languages I	3
EDTL:4417	Learning to Teach Second Languages II	3
EDTL:6483	Multilingual Education and Applied Linguistics	3
The following courses are taken concurrently and constitute the student teaching semester:		
EDTL:4087	Seminar: Curriculum and Student Teaching	1, 3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

K-12 Licensure

The K-12 licensure option requires the following course.

Code	Title	Hours
EDTL:4089	Special Subject Area Student Teaching	1-4

Comprehensive Examination

A comprehensive examination is required. The examination reflects a candidate's depth and breadth of knowledge in world language education, including but not limited to theory and practice as well as knowledge of and proficiency in the target language and/or literature of the candidate's choice. The candidate and the advisor discuss the exam's content and format eight months before the exam.

TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (world language education).

Admission

Applicants must meet the admission requirements of the Graduate College. They must have been granted a bachelor's degree with a major or a strong concentration in a second language and must have an undergraduate g.p.a. of at least 3.00. They also must meet all Teacher Education Program (TEP) application requirements.