

Secondary Education

Shimada Resource Center (<https://education.temple.edu/services>)
 College of Education
 150 Ritter Annex
 1301 Cecil B. Moore Ave.
 Philadelphia, PA 19122
 215-204-8011 (phone)
 215-204-4383 (fax)

The Secondary Education program offers specializations that prepare students to earn an Instructional I Certificate that will authorize them to teach in one of the following content areas:

Specializations offering grades 7-12 certification

- English
- Mathematics
- Sciences
- Social Studies

Specialization offering K-12 certification

- World Languages
 - Chinese
 - French
 - German
 - Italian
 - Latin
 - Spanish

Students in Secondary Education must complete course work in both education and in their content areas.

(Science and mathematics certifications are also available in the TUteach (<http://bulletin.temple.edu/undergraduate/science-technology/tu-teach-programs>) program, a joint program offered through the College of Science and Technology and the College of Education.)

For specific details on each specialization, including suggested four-year academic plans, click on one of the following links: English (<http://bulletin.temple.edu/undergraduate/education/secondary-education/english-education>), Mathematics (<http://bulletin.temple.edu/undergraduate/education/secondary-education/mathematics-education>), Social Studies (<http://bulletin.temple.edu/undergraduate/education/secondary-education/social-studies-education>), World Languages (<http://bulletin.temple.edu/undergraduate/education/secondary-education/secondary-education-world-languages-education>), Science (<http://bulletin.temple.edu/undergraduate/education/secondary-education/science-education>).

GPA requirements:

- In order to maintain good standing in Secondary Education, students must maintain a 3.0 cumulative grade point average and a 2.0 grade point average in the course work in their content areas.

Programs

- Secondary Education/English Education (<http://bulletin.temple.edu/undergraduate/education/secondary-education/english-education>)
- Secondary Education/Mathematics Education (<http://bulletin.temple.edu/undergraduate/education/secondary-education/mathematics-education>)
- Secondary Education/Science Education (<http://bulletin.temple.edu/undergraduate/education/secondary-education/science-education>)
- Secondary Education/Social Studies Education (<http://bulletin.temple.edu/undergraduate/education/secondary-education/social-studies-education>)
- Secondary Education/World Languages Education (<http://bulletin.temple.edu/undergraduate/education/secondary-education/secondary-education-world-languages-education>)

English Education (Secondary) Courses

ENES 3338. Foundations of Language Teaching: Teaching English Language Learners in Grades 4 to 12. 3 Credit Hours.

This course offers students an introduction to theory, research and practice in teaching English language learners in the middle grades. The course begins with an overview of sociocultural characteristics of ELLs, legal responsibilities, and educational and language policies in the United States. Students will also learn the basic theories and principles associated with second language acquisition. Students will explore the philosophies of bilingual and ESL education as well as different program models that address the education of linguistically diverse students. Students will be introduced to an array of contemporary, research-based instructional approaches, including content-based instruction, task-based language teaching, and sheltered English instruction. As a result, they will gain an understanding of how to adapt standards-based lessons for English language learners. Through a practicum component, students will learn to design lessons and assessments for small-group instruction. Students will also develop cross-cultural competence through interactions with ELLs, teachers and school staff in the middle grades. NOTE: Background clearances required.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Repeatability: This course may not be repeated for additional credits.

ENES 4366. Teaching Literature and Reading 7-12. 3 Credit Hours.

An investigation of what texts ought to be taught in secondary schools, of how to teach them most effectively, and of the extent to which different student populations require different approaches. NOTE: As part of the course, students spend 2-3 hours each week assisting in a language arts classroom.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: EDUC 4389.

Repeatability: This course may not be repeated for additional credits.

ENES 4371. Teaching Oral and Written Communication: 7-12. 3 Credit Hours.

An examination of the knowledge that writers employ when they compose different kinds of texts, of the instructional contexts that are most effective in helping secondary students develop that knowledge, and of the extent to which different student populations require different approaches. NOTE: As part of the course, students spend 2-3 hours each week assisting in a language arts classroom.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: EDUC 4389.

Repeatability: This course may not be repeated for additional credits.

Math Education (Secondary) Courses

MAES 2189. Classroom Interactions. 3 Credit Hours.

This course continues the process of preparing students to teach mathematics and science in upper elementary and secondary settings. The specific objectives of this course are to: 1) demonstrate to students how learning theories (from the "Knowing and Learning" course) manifest themselves in instructional settings (usually classrooms), allow students to design and implement instructional activities from their own understanding of knowing and learning mathematics and science, and evaluate the outcomes of those activities based on evidence from student artifacts, and 2) provide students with frameworks for thinking about equity issues in the classroom and larger school setting and their effects on learning and provide students with strategies for teaching diverse students equitably. The culminating activities of the course are the opportunities for students to teach in a high school and to learn whether they enjoy and are good at it. While in "Knowing and Learning" students study the meaning behind understanding a particular content area from an individual perspective, in "Classroom Interactions" the perspective shifts to studying how classroom events might promote or discourage learning mathematics and science and student equity. A major component of the "Classroom Interactions" course is the opportunity for students to reflect on and evaluate their own work as teachers.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:

(EDUC 2179|Minimum Grade of C-|May be taken concurrently)

AND (SCTC 1289|Minimum Grade of C-|May not be taken concurrently)

OR SCTC 1389|Minimum Grade of C-|May not be taken concurrently)

MAES 3145. Teaching and Learning Mathematics in the Middle Grades. 3 Credit Hours.

This course examines methods of teaching and assessing mathematics in the middle grades. Special attention is paid to understanding the conceptual difficulties students have in moving from whole numbers to rational numbers, additive thinking to multiplicative thinking, and arithmetic to algebra. Problem-solving, connections, and concrete models are emphasized.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: EDUC 4389.

Repeatability: This course may not be repeated for additional credits.

MAES 3146. Methods and Materials in Secondary Mathematics. 3 Credit Hours.

This course will explore problems in algebra, trigonometry, analytic geometry, calculus, Euclidean geometry, probability, statistics, and discrete mathematics. This course is intended as a capstone study for prospective secondary mathematics teachers. The objectives of this course are as follows: (1) connect ideas within and between mathematical concepts, (2) develop mathematical thinking and reasoning, and (3) develop problem solving skills. Technology will be a vital part of this course. Technology will be used to demonstrate and encourage conjecturing and problem solving with an emphasis on applications. The goals of this course are to help you as prospective or beginning secondary mathematics teachers to: (1) develop a deep understanding of the mathematics you will be teaching by connecting mathematical concepts to instruction and (2) acquire the skills, knowledge, and reflective practice necessary for successful teaching.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Repeatability: This course may not be repeated for additional credits.

MAES 3147. Geometry and its Classroom Implications. 3 Credit Hours.

The class stresses the topics found in a standard high school geometry course from an advanced point of view. In addition, important plane geometry theorems such as Ceva's Theorem, and Menelaus' Theorem are examined. Special attention is paid to the concept of proof, and different kinds of proofs are examined. Non-Euclidean geometry is investigated, as are the constructions of college geometry.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: TUteach.

Repeatability: This course may not be repeated for additional credits.

MAES 3278. Professional Subject Matter: Statistics. 1 to 3 Credit Hour.

This course addresses the statistics curriculum found in most high school advanced placement courses. In addition, students will test hypotheses using appropriate sampling strategies, and interpret the results in terms of confidence intervals and significance. The course will also examine interpreting the results of statistical tests, (including z-test, t-test, paired t-test, matched t-test). In addition, special consideration will be given to developing strategies for modeling data, making predictions from these models, and considering issues relating to population, random samples, and proportions.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: TUteach.

Repeatability: This course may not be repeated for additional credits.

MAES 4146. Teaching and Learning Mathematics in High School. 3 Credit Hours.

This course will explore problems in algebra, trigonometry, analytic geometry, calculus, Euclidean geometry, probability, statistics, and discrete mathematics. This course is intended as a capstone study for prospective secondary mathematics teachers. The objectives of this course are as follows: (1) connect ideas within and between mathematical concepts, (2) develop mathematical thinking and reasoning, and (3) develop problem solving skills. Technology will be a vital part of this course. Technology will be used to demonstrate and encourage conjecturing and problem solving with an emphasis on applications. The goals of this course are to help you as prospective or beginning secondary mathematics teachers to: (1) develop a deep understanding of the mathematics you will be teaching by connecting mathematical concepts to instruction and (2) acquire the skills, knowledge, and reflective practice necessary for successful teaching.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: EDUC 4389.

Repeatability: This course may not be repeated for additional credits.

MAES 4189. Project-Based Instruction. 3 Credit Hours.

"Project-Based Instruction" (PBI) is the capstone course in the sequence of required education courses and is required before TUTEACH students take Education 4688: "Student Teaching in Secondary Education." PBI is the course in which the major themes of the TUTEACH program - integrated content of mathematics and science learning, infusion of technology in representation, analysis, modeling, assessment and contextualization of the content, field-based experiences, and equity - converge into an exciting and intellectually challenging culminating experience. When students complete PBI, they are fully prepared for Student Teaching. Whereas in "Classroom Interactions," students gain experience designing a sequence of several lessons that they teach to a high school class, in PBI, students design full units of connected lessons - a skill that is required in Student Teaching. PBI also provides students with the experience of managing lessons and students outside a classroom, in a field setting. Despite its name, PBI emphasizes choosing from a variety of appropriate teaching styles, depending on the type of material and the learning objective, with project-based instruction being just one possible alternative. In addition, PBI requires students to incorporate various technologies into the units they plan.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: TUTEACH.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:

(MAES 2189|Minimum Grade of C-|May not be taken concurrently
AND PRAX 100999|May not be taken concurrently)

MAES 4366. The Teaching of Problem Solving. 3 Credit Hours.

This course is designed for the in-service as well as the pre-service teacher. Topics to be discussed will be the role of problem solving and reasoning in the mathematics curriculum, developing techniques for improving problem solving and reasoning abilities of students on mathematics. Emphasis will be on how to teach problem solving as opposed to merely solving problems.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: MAES 2189.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:

MAES 2189|Minimum Grade of C-|May be taken concurrently.

MAES 4371. History of Mathematics. 3 Credit Hours.

The course will consider the mathematical ideas of particular significance in elementary and secondary school curricula: the development and introduction of Hindu-Arabic numerals, early computing devices, Euclidean and non-Euclidean geometries, etc. Ways in which the history of mathematics may be used to enhance the learning of mathematical concepts by students in the schools will also be examined.

Repeatability: This course may not be repeated for additional credits.

Science Education (Secondary) Courses**SCES 2189. Classroom Interactions. 3 Credit Hours.**

This course continues the process of preparing students to teach mathematics and science in upper elementary and secondary settings. The specific objectives of this course are to: 1) demonstrate to students how learning theories (from the "Knowing and Learning" course) manifest themselves in instructional settings (usually classrooms), allow students to design and implement instructional activities from their own understanding of knowing and learning mathematics and science, and evaluate the outcomes of those activities based on evidence from student artifacts, and 2) provide students with frameworks for thinking about equity issues in the classroom and larger school setting and their effects on learning and provide students with strategies for teaching diverse students equitably. The culminating activities of the course are the opportunities for students to teach in a high school and to learn whether they enjoy and are good at it. While in "Knowing and Learning" students study the meaning behind understanding a particular content area from an individual perspective, in "Classroom Interactions" the perspective shifts to studying how classroom events might promote or discourage learning mathematics and science and student equity. A major component of the "Classroom Interactions" course is the opportunity for students to reflect on and evaluate their own work as teachers.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:

(EDUC 2179|Minimum Grade of C-|May be taken concurrently)
AND (SCTC 1289|Minimum Grade of C-|May not be taken concurrently
OR SCTC 1389|Minimum Grade of C-|May not be taken concurrently)

SCES 3146. The Teaching of Science in Secondary Schools. 3 Credit Hours.

For students beginning their classes in science teaching at the secondary level. This course must be taken before student teaching. Role of science education in the secondary curriculum, and sources of material and content for teaching physical, biological, earth sciences and environmental sciences are covered.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: EDUC 4389.

Repeatability: This course may not be repeated for additional credits.

SCES 4146. Teaching Science in Secondary Schools II. 3 Credit Hours.

This course serves as the second science education course. In this course, we will continue to use ideas generated in SCES 3146, such as meaningful understanding, how children's ideas progress as they become more sophisticated, and designing instruction around inquiry experiences, in order to take a deeper look at curriculum, instruction and learning at the secondary level. In addition, we will cover the following ideas: (1) units of instruction, as well as the relationships among units, (2) connections to other fields, specifically math and models as a way to understand more sophisticated science ideas, (3) relationships among big ideas in science (and across science courses), (4) the learning environment (i.e. level of task, management-motivation-instruction connections), and (5) accounting for language, culture and social backgrounds in science teaching/learning. Throughout the semester, we will examine and reflect on science content, field experiences, unit planning and curricula, video vignettes, connections to help us meet the objectives. NOTE: Background clearances required.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: EDUC 4389.

Repeatability: This course may not be repeated for additional credits.

SCES 4189. Project-Based Instruction. 3 Credit Hours.

"Project-Based Instruction" (PBI) is the capstone course in the sequence of required education courses and is required before TUteach students take Education 4688: "Student Teaching in Secondary Education." PBI is the course in which the major themes of the TUteach program - integrated content of mathematics and science learning, infusion of technology in representation, analysis, modeling, assessment and contextualization of the content, field-based experiences, and equity - converge into an exciting and intellectually challenging culminating experience. When students complete PBI, they are fully prepared for Student Teaching. Whereas in "Classroom Interactions," students gain experience designing a sequence of several lessons that they teach to a high school class, in PBI, students design full units of connected lessons - a skill that is required in Student Teaching. PBI also provides students with the experience of managing lessons and students outside a classroom, in a field setting. Despite its name, PBI emphasizes choosing from a variety of appropriate teaching styles, depending on the type of material and the learning objective, with project-based instruction being just one possible alternative. In addition, PBI requires students to incorporate various technologies into the units they plan.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: TUteach.

Repeatability: This course may be repeated for additional credit.

Pre-requisites:

(PRAX 100999|May not be taken concurrently

AND SCES 2189|Minimum Grade of C-|May not be taken concurrently)

Science, Secondary Education Courses**SCSE 3147. The Scientific Industry for Teachers. 3 Credit Hours.**

This course exposes science teachers to industry and industrial related operations in situ where teachers can see and learn how science and scientific principles that they teach in their classrooms are applied in non-academic settings and how our economy is affected by these industries. Teachers will meet and talk with non-academic scientists, to observe them "at the bench," in action to learn the importance of the use of the laboratory and modern technology in applying the very principles that they, the teachers, teach in their classes.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Repeatability: This course may not be repeated for additional credits.

Secondary Education Courses

SECE 3796. Differentiated Literacy Instruction in the Disciplines, 7-12. 3 Credit Hours.

This course examines ways in which secondary teachers can support students' struggles with reading and writing in the disciplines, including Mathematics, History (Social Studies), the Sciences, Foreign Language, and English. How can we teach all students the concepts, facts, and skills that they need to do well in our discipline? What kinds of reading and writing issues can inhibit students' progress? How do we identify the kinds of difficulties that different text organizations may pose for students? What must a high school student learn to do to read and write appropriately in English, History, Science, and so on? How can we address these issues without taking time away from teaching our discipline? What kinds of reading and writing tasks can we use as resources for helping students to learn in our discipline? How do the current state and national emphases on standards and teacher accountability affect our responsibilities in the classroom? The answers to these questions have deep implications for the instructional activities that we will develop to enable all children to use reading and writing as tools for learning in our fields. This is also the Capstone Writing-Intensive Course in the Major. The course immerses you in the kinds of literate activities practiced in our profession. It examines the ways that reading and writing vary across the disciplines included in this course. NOTE: This course was previously called "Reading Problems in the Secondary School."

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Course Attributes: WI

Repeatability: This course may not be repeated for additional credits.

SECE 4688. Student Teaching in Secondary Education. 9 to 11 Credit Hours.

Involves a school placement where students demonstrate their knowledge of and competence in teaching. Students work with a certified cooperating teacher and are supervised by a Temple University faculty member. NOTE: All coursework must be completed before taking this course. There is a \$50 fee associated with all sections of this course. Student Teaching Applications are now online at <http://education.temple.edu/ofp/studentteaching>. Obtain your advisor's signature and return the completed application to the Student Teaching coordinator in 150 Ritter Hall.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: SECE 4801.

Repeatability: This course may not be repeated for additional credits.

SECE 4801. Senior Seminar and Performance Assessment in Secondary Education. 3 Credit Hours.

Students will be involved in experiences that prepare them for making the transition from college to the practice setting, and engage in activities that foster professionalism in school and community settings. The senior performance assessment, a requirement for teacher certification students, is also a part of the course. NOTE: This is a required course for all teacher certification candidates, which is taken during the student teaching semester.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: SECE 4688.

Repeatability: This course may not be repeated for additional credits.

Social Studies Ed (Secondary) Courses

SSES 3278. Methods and Materials in Secondary Social Studies. 3 Credit Hours.

The course focuses on instructional materials and teaching strategies for teaching history and secondary social studies. There is an emphasis on social justice and teaching with documents. Students are required to complete a resource file, unit of study, and several short papers. Also, students will complete the Intermediate Performance assessment in this course.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: EDUC 4389.

Repeatability: This course may not be repeated for additional credits.

SSES 4278. Teaching for Understanding in Secondary Social Studies. 3 Credit Hours.

This course builds on the foundation prepared in SSES 3278: Issues Teaching Secondary Social Studies. The purpose is to develop an understanding of teaching the four major content areas of the social studies (history, geography, economics, and civics and government). The goal is to help prepare candidates to teach these areas in terms of designing curriculum and assessment; adapting strategies from the field; and considering innovative ways to teach by drawing on available resources. The course will cover the important theories of social education and the developmental course of learning history, economics, civics, geography, psychology, sociology, and anthropology. Woven throughout the class will be a discussion of culture and diversity as adolescents encounter the world and prepare for full citizenship and to enter the workforce. SSES 4278 includes a 1-credit field experience. Students are expected to participate in level two fieldwork in a school setting for 30 hours that addresses one or more of the content areas of social studies (history, geography, economics, civics, psychology, anthropology, and/or sociology). Through field experiences, readings, projects and papers, and class discussions the following questions will be addressed: How will we prepare adolescents for a world in which respect for the environment, diversity, and the principles of democracy have become increasingly important? How can activities be developed that embody the principles of adolescents' concept development in the social studies? How can we create learning experiences that include and value all students' backgrounds? NOTE: Clearances required.

College Restrictions: Must be enrolled in one of the following Colleges: Education.

Student Attribute Restrictions: Must be enrolled in one of the following Student Attributes: Clearance for Education.

Cohort Restrictions: Must be enrolled in one of the following Cohorts: EDCNDCY.

Co-requisites: EDUC 4389.

Repeatability: This course may not be repeated for additional credits.