

# Secondary Education - CTSE

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## Courses

**CTSE 1000 INQUIRY APPROACHES TO SCIENCE TEACHING: STEP 1 (1)** LEC. 1. LAB. 2. This course allows students to explore teaching as a career. Following an introduction to the theory and practice behind excellent inquiry-based science instruction, candidates teach lessons in elementary classrooms to obtain firsthand experience in planning and implementation. An elementary school placement is chosen to help the AUTEach student connect with youth who are moving into the targeted grade band. Master teachers in AUTEach are instructors and are chosen for their experience and success in secondary classrooms. They provide candidates direct exposure to people who love teaching and view it as a rewarding career choice. Mentor teachers at the schools where candidates teach their prepared lessons demonstrate effective teaching techniques and classroom management skills, giving the future teachers a true taste of working in a supportive, diverse educational setting. The course emphasizes using the 5E Learning Cycle instructional model.

**CTSE 2000 INQUIRY APPROACHES TO SCIENCE TEACHING: STEP 2 (1)** LEC. 1. LAB. 2. This course allows students to continue developing the lesson planning and teaching skills explored in CTSE 1000 (Step 1). After observing a lesson being taught in a local school district classroom, students (in pairs) plan and teach two inquiry-based lessons to sixth, seventh, or eighth graders. Middle school science classrooms are selected both for the diversity of the student body and the quality of the classroom teachers, who serve as mentors for the Step 2 students assigned to them. For their final product, Step 2 students analyze and modify one of the lessons they taught, taking into account the results of the assessments, their reflection on how successful the lesson was, and feedback from observers (Mentor Teacher, Instructor, or Teaching Assistant). By the end of Step 2, students are usually able to make a decision about whether to pursue teacher certification through the AUTEach program. In addition to the unique Core Components and Course Objectives listed below, all AUTEach courses are designed in accordance with the AUTEach Course Design Principles. The course emphasizes using the 5E Learning Cycle instructional model.

**CTSE 2500 INQUIRY APPROACHES TO SCIENCE TEACHING: COMBINED STEP 1 AND 2 (2)** LEC. 2. LAB. 4. This course allows students to explore teaching as a career, learn the theory and practice behind excellent inquiry-based science instruction, and teach lessons in elementary and middle school classrooms in order to plan and implement lessons. This course replaces CTSE 1000 and CTSE 2000. It's a combined course. After observing lessons being taught in local school districts, students work in pairs to plan and teach two lessons in elementary classrooms, and two inquiry-based lessons to sixth, seventh, or eighth graders. Elementary and middle school science classrooms are selected both for the diversity of the student body and the quality of the classroom teachers, who serve as mentors for the students assigned to them. For their final product, Step 1/2 students analyze and modify one of the lessons they taught, taking into account the results of the assessments, their reflection on how successful the lesson was, and feedback from observers (Mentor Teacher, Instructor, or Teaching Assistant). By the end of this class, students are usually able to make a decision about whether to pursue teacher certification through the AUTEach program.

**CTSE 4050 CURRICULUM AND TEACHING I: SOCIAL SCIENCE (4)** LEC. 2. LAB. 4. Pr. CTSE 4210. Admission to Teacher Education. Application of current educational research and instructional strategies to the design of meaningful social studies instruction and assessment.

**CTSE 4060 CURRICULUM AND TEACHING II: SOCIAL SCIENCE (4)** LEC. 2. LAB. 4. Pr. CTSE 4050 and CTSE 4210. Admission to Teacher Education. Curriculum decision making and planning for instruction, evaluation, and classroom management.

**CTSE 4070 CURRICULUM AND TEACHING I: FOREIGN LANGUAGE (4)** LEC. 2. LAB. 4. Admission to Teacher Education. Strategies for teaching foreign language students with a special emphasis on developing good instruction for comprehensible input and emerging speech tasks. May count either CTSE 4070 or CTSE 4073.

**CTSE 4080 CURRICULUM AND TEACHING II: FOREIGN LANGUAGE (4)** LEC. 2. LAB. 4. Pr. CTSE 4070 or CTSE 4073. Admission to Teacher Education. Teaching strategies based on language acquisition theories that are appropriate for teaching foreign language students. May count either CTSE 4080 or CTSE 4083.

**CTSE 4090 CURRICULUM AND TEACHING I: SCIENCE (4)** LEC. 2. LAB. 4. Admission to Teacher Education. Planning, teaching strategies, evaluation techniques and classroom management procedures needed to be a successful science teacher.

**CTSE 4150 CURRICULUM AND TEACHING I: ENGLISH LANGUAGE ARTS (4)** LEC. 2. LAB. 4. Pr. CTSE 5010 and CTSE 5020. Admission to Teacher Education. Teaching the expressive English language arts, writing and speaking, in middle and high school classrooms.

**CTSE 4160 CURRICULUM AND TEACHING II: ENGLISH LANGUAGE ARTS (4)** LEC. 2. LAB. 4. Pr. CTSE 4150. Admission to Teacher Education. Teaching the receptive English language arts; reading, listening, and viewing; in middle and high school classrooms. Admission to Teacher Education required.

**CTSE 4210 SOCIAL SCIENCE CONCEPTS AND METHODS (3)** LEC. 3. For pre-service teachers. Organizing social science disciplinary knowledge into an integrated framework that is meaningful, useful, and relevant to high school students. 15 hours in social sciences (2000 level or above).

**CTSE 4900 DIRECTED STUDIES (1-6)** DSL/IND. SU. Departmental approval. Independent reading, research, or other work focused on a content area of special interest. The student is directed by a faculty member. Course may be repeated for a maximum of 6 credit hours.

**CTSE 4910 PRACTICUM (1-6)** DSL/PRA. SU. Departmental approval. Admission to Teacher Education. Cooperatively selected field experience. Course may be repeated for a maximum of 6 credit hours.

**CTSE 4920 CLINICAL RESIDENCY (11)** AAB/DSL. 40. SU. Pr. P/C CTSE 5210 or P/C CTSE 5213 or P/C CTSE 5220 or P/C CTSE 5223 or P/C CTSE 5230 or P/C CTSE 5233 or P/C CTSE 5240 or P/C CTSE 5243 or P/C CTSE 5250 or P/C CTSE 5253 or P/C CTSE 5410. Admission to Clinical Residency. Supervised teaching in a public secondary school abroad accompanied by scheduled discussions to analyze and evaluate the intern's experience. May count either CTSE 4920 or CTSE 4923.

**CTSE 4930 AUTEACH CLINICAL RESIDENCY (8)** DSL/FLD. 30. SU. Pr. P/C CTSE 5240 or P/C CTSE 5243. Departmental approval. Supervised science teaching in a public secondary school accompanied by scheduled discussions to analyze and evaluate the clinical resident's experience.

**CTSE 4970 SPECIAL TOPICS (1-4)** DSL. Departmental approval. Cooperatively selected concepts and theories pursued, normally in small groups. Course may be repeated for a maximum of 4 credit hours.

**CTSE 5000 TECHNOLOGY IN SCIENCE EDUCATION (2)** LEC. 2. Introduction and application of current and emerging instructional and communication technologies for integration in the secondary science program. May count either CTSE 5000, CTSE 5003, CTSE 6000 or CTSE 6006.

**CTSE 5010 LANGUAGE STUDY FOR TEACHERS (3)** LEC. 3. Theories of language development and language study applicable to middle and high school classrooms; implications for teaching grammar, usage, dialects, and semantics. Departmental approval. Junior standing. May count either CTSE 5010, CTSE 6010 or CTSE 6016.

**CTSE 5020 RHETORIC AND COMPOSITION FOR TEACHERS (3)** LEC. 3. Theories of rhetoric and composition applicable to middle and high school classrooms; implications for planning writing curricula, instruction, and assessment/evaluation. May count either CTSE 5020 or CTSE 6020.

**CTSE 5030 TEACHING MATHEMATICS: HIGH SCHOOL (4)** LEC. 2. LAB. 4. Strategies for teaching and evaluating high school mathematics to promote the learning of all students.

**CTSE 5040 TECHNOLOGY AND APPLICATIONS IN SECONDARY MATHEMATICS EDUCATION (4)** LEC. 2. LAB. 4. Pr. MATH 2660. Use of technological tools to enhance mathematics teaching and learning. May count either CTSE 5040 or CTSE 6040.

**CTSE 5050 ANALYZING PERSISTENT ISSUES IN HISTORY AND GEOGRAPHY (3)** LEC. 3. This course will engage students in inquiry-based and Persistent Issues in History units of content instruction with selected topics that integrate history and geography content and then deconstruct those units to examine the research-based learning and assessment principles that underlie their design.

**CTSE 5060 ANALYZING PERSISTENT ISSUES IN POLITICAL ECONOMY (3)** LEC. 3. This course integrates moral philosophy, political science, and economics into an exploration of persistent issues in political economy. Students will metacognitively analyze their own learning as they investigate and propose a policy solution to a political economy problem.

**CTSE 5090 CURRICULUM AND TEACHING I: SCIENCE (4)** LEC. 2. LAB. 4. Planning, teaching strategies, evaluation techniques and classroom management procedures needed to be a successful science teacher.

**CTSE 5100 CURRICULUM AND TEACHING II: SCIENCE (4)** LEC. 2. LAB. 4. Pr. CTSE 4090. Admission to Teacher Education. Higher-order reasoning and process skills using state and national standards as guides. Theoretical and applied approaches. May count either CTSE 5100 or CTSE 6100.

**CTSE 5110 PERSPECTIVES IN SCIENCE (3)** LEC. 3. Perspectives on Science is an overview and introduction to the scholarly field of science history with applications for embedding historical stories and discoveries into today's secondary science classrooms.

**CTSE 5210 TEACHER INQUIRY WORKSHOP: PROBLEMS AND POSSIBILITIES (1)** LEC. 1. Pr. P/C CTSE 4920 or P/C CTSE 4923. Admission to Clinical Residency. Community of practice for English Language Arts clinical residents to support professional practice through teacher inquiry. May count either CTSE 5210, CTSE 5213, CTSE 6210, or CTSE 6216.

**CTSE 5220 CLASS MANAGEMENT AND DISCIPLINE IN FOREIGN LANGUAGE CLASSROOM (1-2)** AAB. Admission to Clinical Residency. Seminar for clinical residents on classroom management in Foreign Language Education. May count either CTSE 5220 or CTSE 6220. Course may be repeated for a maximum of 2 credit hours.

**CTSE 5230 MANAGING MIDDLE AND HIGH SCHOOL CLASSROOM (MATH EDUCATION) (1)** AAB/DSL. 15. Pr. P/C CTSE 4920 or P/C CTSE 4923. Admission to Clinical Residency. The role of the teacher in mathematics classroom management. Methods for developing a positive learning environment. May count either CTSE 5230, CTSE 5233, CTSE 6230 or CTSE 6236.

**CTSE 5240 CLINICAL RESIDENCY SEMINAR IN SCIENCE TEACHING (1)** AAB/DSL. 15. Pr. P/C CTSE 4920 or P/C CTSE 4923. Admission to Clinical Residency. Seminar for Science Education clinical residents in classroom management, professional development, diversity and equity issues, theory and practice. May count either CTSE 5240, CTSE 5243, CTSE 6240 or CTSE 6246.

**CTSE 5250 SEMINAR IN SOCIAL SCIENCE EDUCATION (1)** AAB/DSL. 15. Pr. P/C CTSE 4920 or P/C CTSE 4923. Admission to Clinical Residency. Best practices for managing secondary social science classrooms and ethically resolving students discipline issues for a positive learning climate for all students. May count either CTSE 5250, CTSE 5253, CTSE 6250 or CTSE 6256.

**CTSE 6000 TECHNOLOGY IN SCIENCE EDUCATION (2)** LEC. 2. Introduction and application of current and emerging instructional and communication technologies for integration in the secondary science program. May count either CTSE 5000, CTSE 5003, CTSE 6000 or CTSE 6006.

**CTSE 6010 LANGUAGE STUDY FOR TEACHERS (3)** LEC. 3. Theories of language development and language study applicable to middle and high school classrooms; implications for teaching grammar, usage, dialects, and semantics. Departmental approval. May count either CTSE 5010, CTSE 6010 or CTSE 6016.

**CTSE 6020 RHETORIC AND COMPOSITION FOR TEACHERS (3)** LEC. 3. Theories of rhetoric and composition applicable to middle and high school classrooms; implications for planning writing curricula, instruction, and assessment/evaluation. May count either CTSE 5020, CTSE 6020 or CTSE 6026.

**CTSE 6030 TEACHING MATHEMATICS: HIGH SCHOOL (4)** LEC. 2. LAB. 4. Strategies for teaching and evaluating high school mathematics to promote the learning of all students.

**CTSE 6040 TECHNOLOGY AND APPLICATIONS IN SECONDARY MATHEMATICS EDUCATION (4)** LEC. 2. LAB. 4. Use of technological tools to enhance mathematics teaching and learning. May count either CTSE 5040 or CTSE 6040.

**CTSE 6050 ANALYZING PERSISTENT ISSUES IN HISTORY AND GEOGRAPHY (3)** LEC. 3. This course will engage students in inquiry-based and Persistent Issues of History units of content instruction with selected topics that integrate history and geography content and then deconstruct those units to examine the research-based learning and assessment principles that underlie their design.

**CTSE 6060 ANALYZING PERSISTENT ISSUES IN POLITICAL ECONOMY (3)** LEC. 3. This course integrates moral philosophy, political science, and economics into an exploration of persistent issues in political economy. Students will metacognitively analyze their own learning as they investigate and propose a policy solution to a political economy problem.

**CTSE 6090 CURRICULUM AND TEACHING I: SCIENCE (4)** LEC. 2. LAB. 4. Planning, teaching strategies, evaluation techniques and classroom management procedures needed to be a successful science teacher.

**CTSE 6100 CURRICULUM AND TEACHING II: SCIENCE (4)** LEC/LLB. 6. Pr. CTSE 4090. Higher-order reasoning and process skills using state and national standards as guides. Theoretical and applied approaches. May count either CTSE 5100 or CTSE 6100.

**CTSE 6210 TEACHER INQUIRY WORKSHOP: PROBLEMS AND POSSIBILITIES (1)** AAB. 1. Pr. P/C CTSE 7920 or P/C CTSE 7926. Admission to Clinical Residency. Community of practice for English Language Arts clinical residents to support professional practice through teacher inquiry. May count either CTSE 5210, CTSE 5213, CTSE 6210, or CTSE 6216.

**CTSE 6220 CLASS MANAGEMENT AND DISCIPLINE IN FOREIGN LANGUAGE CLASSROOM (1)** AAB. 15. Pr. P/C CTSE 7920 or P/C CTSE 7926. Admission to Clinical Residency. Seminar for clinical residents on classroom management in Foreign Language Education. May count either CTSE 5220, CTSE 5223, CTSE 6220 or CTSE 6226.

**CTSE 6230 MANAGING MIDDLE AND HIGH SCHOOL CLASSROOM (MATH EDUCATION) (1)** AAB. 15. Pr. (P/C CTSE 7920 or P/C CTSE 7926). Admission to Clinical Residency. The role of the teacher in mathematics classroom management. Methods for developing a positive learning environment. May count either CTSE 5230, CTSE 5233, CTSE 6230 or CTSE 6236.

**CTSE 6240 CLINICAL RESIDENCY SEMINAR IN SCIENCE TEACHING (1)** AAB. 15. Pr. P/C CTSE 7920 or P/C CTSE 7926. Admission to Clinical Residency. Seminar for Science Education clinical residents in classroom management, professional development, diversity and equity issues, theory and practice. May count either CTSE 5240, CTSE 5243, CTSE 6240 or CTSE 6246.

**CTSE 6250 SEMINAR IN SOCIAL SCIENCE EDUCATION (1)** AAB. 15. Pr. P/C CTSE 7920 or P/C CTSE 7926. Admission to Clinical Residency. Best practices for managing secondary social science classrooms and ethically resolving students discipline issues for a positive learning climate for all students. May count either CTSE 5250, CTSE 5253, CTSE 6250 or CTSE 6256.

**CTSE 6710 LANGUAGE STUDY FOR TEACHERS (3)** LEC. 3. Theories of language development and language study applicable to middle and high school classrooms; implications for teaching grammar, usage, dialects, and semantics. May count either CTSE 5710, CTSE 6710, or CTSE 6716.

**CTSE 7000 ORIENTATION TO TEACHING AND LEARNING (1)** LEC. 1. Skills, dispositions, community, and research planning for graduate students including preparation of a research proposal. May count either CTSE 7000 or CTSE 7006.

**CTSE 7490 THE SECONDARY SCHOOL PROGRAM (3)** LEC. 3. Departmental approval. Implications of research and theory for the total secondary school program.

**CTSE 7510 RESEARCH STUDIES IN AREA OF SPECIALIZATION (3)** LEC. 3. Research methodology, landmark studies, critique and application of research in the area of specialization.

**CTSE 7520 CURRICULUM AND TEACHING IN AREA OF SPECIALIZATION (3)** LEC. 3. Nature of learners and of knowledge and implications for building curricula and planning instruction in the area of specialization. May count either CTSE 7520 or CTSE 7526.

**CTSE 7530 ORGANIZATION OF PROGRAM IN AREA OF SPECIALIZATION (3)** LEC. 3. Program models, components, and standards in the area of specialization. May count either CTSE 7530 or CTSE 7536.

**CTSE 7540 EVALUATION OF PROGRAM IN AREA OF SPECIALIZATION (3)** LEC. 3. Theoretical perspectives of evaluation and methods of evaluating learners, teachers, and curricula. May count either CTSE 7540 or CTSE 7546.

**CTSE 7560 EQUITY ISSUES IN MATHEMATICS EDUCATION (3)** LEC. 3. Theories, issues, and pedagogy related to achieving equity in mathematics education.

**CTSE 7800 CAPSTONE IN TEACHING AND LEARNING (2)** LEC. 2. Development of a unique portfolio based on professional interest and demonstration the ability to foster student achievement through the design, implementation, and assessment of learning activities. May count either CTSE 7800 or CTSE 7806.

**CTSE 7900 DIRECTED STUDIES (1-6)** DSL/IND. SU. Departmental approval. Independent study directed toward desired objectives related to their respective areas of specialization. Includes evaluation at regular intervals by professor and student. Course may be repeated for a maximum of 6 credit hours.

**CTSE 7910 PRACTICUM IN AREA OF SPECIALIZATION (1-6)** AAB. SU. Departmental approval. Experience relating theory and practice, usually in a school setting. Course may be repeated for a maximum of 6 credit hours.

**CTSE 7920 CLINICAL RESIDENCY (8-11)** AAB. 40. SU. Pr. P/C CTSE 6210 or P/C CTSE 6216 or P/C CTSE 6220 or P/C CTSE 6226 or P/C CTSE 6230 or P/C CTSE 6236 or P/C CTSE 6240 or P/C CTSE 6246 or P/C CTSE 6250 or P/C CTSE 6256. Admission to Clinical Residency. Supervised clinical residency experiences in a school, college or other appropriate setting. Evaluation and analysis of the clinical residency experience. Departmental approval. May count either CTSE 7920 or CTSE 7926. Course may be repeated for a maximum of 11 credit hours.

**CTSE 7970 SPECIAL TOPICS (1-6)** DFL. Departmental approval. Provides an opportunity for the graduate student and professor to pursue selected topics in depth. Course may be repeated for a maximum of 6 credit hours.

**CTSE 7990 RESEARCH AND THESIS (1-10)** MST. Course may be repeated with change in topics.

**CTSE 8950 SEMINAR (1-3)** DSL/SEM. Selected concepts and theoretical formulations of common interest. Course may be repeated for a maximum of 12 credit hours.

**CTSE 8980 FIELD PROJECT (1-3)** DSL/FLD. SU. Departmental approval. Students review literature pertaining to a problem they have identified in their own practice, form hypotheses, plan intervention, collect data, analyze and interpret results, write summary of the project following approved guidelines, and orally defend the results of their project. Course may be repeated for a maximum of 3 credit hours.

**CTSE 8990 RESEARCH AND DISSERTATION (1-10)** DSL/DSR. Course may be repeated with change in topics.