

## UHCL*Teach* Program Course Descriptions

Course #	Course Title	Course Descriptions
TCED 1101	Inquiry Approaches to Teaching Mathematics and Science: Step 1	Introduction to mathematics and science teaching as a career. Discussions include standards-based lesson design and various teaching and behavior management strategies. Fieldwork consists of planning and teaching three inquiry-based lessons to students in grades three to five in local elementary schools. Field component required.
TCED 1102	Inquiry Based Lesson Design in Mathematics and Science: Step 2	Topics may include routes to teacher certification in mathematics and science teaching; various teaching methods that are designed to meet instructional goals; and learner outcomes. Students develop and teach three inquiry-based lessons in their field in a middle school, and participate in peer coaching. Field component. Prerequisite: TCED 1101 with a grade of at least C or consent of a UHCL <i>Teach</i> Co-Director.
TCED 2301	Knowing & Learning	Psychological foundations of learning; problem solving in mathematics and science education utilizing technology; principles of expertise and novice understanding of subject matter; implications of high stakes testing; and foundations of formative and summative assessment. Prerequisites: Admission to the UHCL <i>Teach</i> program; university, STEM and major department grade point average of at least 2.5; TCED 1102 with a grade of at least C or consent of a UHCL <i>Teach</i> Co-Director.
TCED 2303	Classroom Interactions	Principles of delivering effective instruction in various formats (lecture, lab, cooperative settings); examination of gender, class, race, and culture in mathematics and science education; overview of policy related to mathematics and science education. Prerequisites: Admission to the UHCL <i>Teach</i> program; university, UHCL <i>Teach</i> , and major department grade point averages of at least 2.5; TCED 2301 with a grade of at least C or consent of a UHCL <i>Teach</i> Co-Director.
TCED 3300	Perspectives on Science and Mathematics	Introduction to the historical, social and philosophical implications of mathematics and science through investigations of pivotal experiments and findings. Fall and spring semesters. Prerequisites: Admission to the UHCL <i>Teach</i> program; university, TCED, and major department grade point averages of at least 2.5; ENGL 1020 and completion of all 1000-level major courses with a grade of at least C; TCED 2302, with a grade of at least C or consent of a UHCL <i>Teach</i> Co-Director.
TCED 3301	Research Methods	Recent developments and research methods in science and mathematics. Prerequisites: Admission to the UHCL <i>Teach</i> program; university, TCED, and major department grade point averages of at least 2.5, an approved General Education statistics course and completion of all 1000-level major courses with a grade of at least C; TCED 2302 with a grade of at least C or consent of a UHCL <i>Teach</i> Co-Director.
TCED 4300	Project Based Instruction	Foundations of project-based, case-based, and problem-based learning environments; principles of project-based curriculum development in mathematics and science education; classroom management and organization of project-based learning classrooms. Field component. Prerequisites: Admission to UHCL <i>Teach</i> program; university, UHCL <i>Teach</i> , and major department grade point averages of at least 2.5; TCED 2302 with a grade of at least C or consent of a UHCL <i>Teach</i> Co-Director.

MATH 3307	Functions and Modeling (Math Majors)	Students will engage in lab-based activities designed to strengthen and expand their knowledge of the topics in secondary mathematics, focusing on topics from precalculus and elementary calculus. Explorations will involve the use of multiple representations, transformations, data analysis techniques and interconnections among geometry, probability, and algebra. The use of quantitative approaches and building relationships between discrete and continuous reasoning will be recurring themes. Only for UHCL <i>Teach</i> students. Prerequisites: MATH 2412 Pre-Calculus.
TCED 4700	Apprentice Teaching and Seminar	Closely supervised fieldwork in cooperating school. Experience includes carrying out the duties of a secondary teacher. Twenty hours of fieldwork a week for one semester. Offered every semester on a pass/fail basis only. Field component. The seminar portion will include discussions revolving around student teaching experiences and contemporary critical issues in education. One lecture hour a week.
EDUC 4310	Theories of Educational Psychology (Biology Majors)	A study of major theories of learning, motivation, cognition and moral development as they apply to professionals and learners, including constraints imposed by law and social policy and tradition.
LLLS 4351	Reading in Content Subjects	Survey of current reading and writing development in content subjects.
SILC 4315	Theories of American Pluralism	A review of theoretical foundations of pluralism and their impact on mainstream America.
SPED 4300	Survey of Exceptionalities	The course will provide a study of teaching students with disabilities and diverse needs with an emphasis on making individualized effective instructional decisions.
TCED 4102	Secondary (4-8 & 7-12) Content Teacher Seminar	This course is designed to assist 4-8 and 7-12 candidates seeking content-specific certifications to understand the State and federal rules and standards for their chosen fields. Completion of the course is dependent upon candidates passing all state assessments required for their degree/certification plan.
TCED 4363	Methods in Secondary Mathematics (Math Majors)	Strategies for teaching secondary mathematics; emphasis on instructional techniques appropriate for secondary mathematics, development of problem-solving skills and issues and trends in secondary mathematics education. Field experiences required.