UTeach-Natural Sciences (UTS)

UTS 101 Secondary Teacher Education Preparation: Step 1 1 Hour
Introduction to mathematics, computer science, and science teaching as a career. Discussions include standards-based lesson design and various teaching and behavior management strategies. Fieldwork consists of five visits to a local elementary school, including planning and teaching three inquiry-based lessons to students in grades three to six.

UTS 306J Hands-On Science I 3 Hours
The first of an integrated sequence of laboratory-based courses. Subjects include energy and motion, electrical circuits, atomic theory, waves, and sound.

UTS 306K Hands-On Science II 3 Hours
The second of an integrated sequence of laboratory-based courses. Subjects include physical and chemical properties of matter, Earth's building blocks, plate tectonics, landforms, weathering, and geologic time.

UTS 306L Hands-On Science III 3 Hours
The third of an integrated sequence of laboratory-based courses. Subjects include properties of life, compartments of living organisms, inheritance, adaptations, variations, and disease.

UTS 306M Hands-On Science IV 3 Hours
The fourth of an integrated sequence of laboratory-based courses. Subjects include astronomy and the earth's climate.

UTS 110 Secondary Teacher Education Preparation: STEP 2 1 Hour
Topics may include routes to teacher certification in mathematics, computer science, 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.

UTS 211 Secondary Teacher Education Prep: Advanced Steps 2 Hours
Accelerated introduction to mathematics, computer science, and science teaching as a career. Discuss standards-based lesson design and various teaching and behavior management strategies. Plan and teach inquiry-based lessons to students in grades three to eight while visiting local elementary and middle schools.

UTS 114F, 214F, 314F Topics in Teaching Math and Science 1-3 Hours

UTS 118 Introduction to Making: STEM, Design, and The Arts 1 Hour
Introduction to the philosophical and historical origins of making and maker-centered education. Use a variety of tools to bring unique creations to life.

UTS 220 Pedagogy for Inquiry-Based, Hands-on-Science Instruction 2 Hours
Integrate educational theory, pedagogy, and practice. Explore a wide body of science education literature, pedagogy application, and social and ethical issues.

UTS 120F, 220F, 320F Topics in Teaching Math and Science 1-3 Hours

UTS 121F Explorations in STEM Education 1 Hour
Earn independent field hours through classroom observations, watching and reflecting on teaching videos, and teaching or tutoring students in the schools.

UTS 350 Knowing and Learning in Math and Science 3 Hours
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.

UTS 355 Classroom Interactions 3 Hours
Principles of delivering effective instruction in various formats (lecture, lab activity, collaborative settings); examination of gender, class, race, and culture in mathematics and science education; overview of policy related to mathematics and science education.

UTS 360 Project-Based Instruction 3 Hours
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.

UTS 170 Student Teaching Seminar 1 Hour
Discussions include student teaching experiences, contemporary critical issues in education, and preparation for the state certification exam.

UTS 370F Undergraduate Reading and Research 3 Hours
Participate in supervised study of selected problems in STEM, by individual arrangement with supervising instructor.

UTS 171 UTeach Induction Support 1 Hour
Engage in individualized, job-embedded activities to support student learning and analyze the impact of their work.

UTS 675 Student Teaching for Secondary and Middle Grades 6 Hours
Closely supervised field coursework in a cooperating school. Experience includes carrying out the duties of a secondary or middle grades teacher.

UTS 175C Computer Science Pathways 1 Hour
Prepare for the subjects of computer science certification exams that are not covered by other computer science courses. Review existing high school computer science curriculum. Create or find a computational thinking exercise in order to lead the class through the activity.

UTS 180, 280, 380, 680, 980 Topics in Teaching Math and Science 1,2,3,6,9 Hours
In-depth investigation of topics in math or science as related to teaching at a secondary level.