01.373 Teaching and Learning with Technology

Course ID: 2311

Course Details:
Max Credits: 3
Min Credits: 3

01.384 Language, Literacy and Culture

Course ID: 2312

Course Details: The course examines the role that socio-cultural and socio-political contexts play in children's literacy development, with particular focus on English Language Learners (ELLs). The course is designed to help students understand the complex and dynamic worlds of diverse learners represented in twenty-first century classrooms. Students will learn new and effective approaches to teaching and learning that provides struggling learners, especially English Language Learners a fair and equitable chance to succeed in the learning contexts.
Max Credits: 3
Min Credits: 3

01.391 Understanding Education

Course ID: 2313

Course Details: The aim of the course is to assist students to build knowledge about educational structures and roles in diverse settings as they consider how education could figure as a calling. Using a broad range of inquiry methodologies and technologies, students will explore areas of self-selected interest in formal educational settings (K-12 or higher education) or informal educational settings (community or health settings, policy, etc.). These explorations will culminate in case presentations in the form of digital stories, in which students will share their findings and discuss future goals in the area of education.
Max Credits: 3
Min Credits: 3

01.403 Understanding Child Development in a Diverse Society

Course ID: 36642

Course Details: Examines the major theoretical frameworks of child development and how cultural differences affect development and learning. Focus is on helping students make responsive and culturally relevant pedagogical decisions.
Max Credits: 3
Min Credits: 3

01.405 Children with Disabilities in the Classroom

Course ID: 33095

Course Details: This course examines the nature of cognitive emotional, developmental, sensory, and physical disabilities that compromise student capacity to make adequate academic progress without special intervention. Legal and ethical responsibilities of the educator in inclusive classroom settings and as an active member of a multidisciplinary learning team are emphasized.
Max Credits: 3
Min Credits: 3

02.301 Early Literacy Community Experience I

Course ID: 37208
Course Details: This is Part One of a two semester course that focuses on experiential learning associated with the Jumpstart Program. The course provides students in the education minor with the necessary skills for working with children in early childhood community agencies. Topics based on the National Association for the Education of Young Children (NAEYC) Standards which include child development, family and community, assessment, teaching and learning, literacy development, and professionalism will be the focus of the course.

Max Credits: 3
Min Credits: 3

02.302 Early Literacy Community Experience II

Course ID: 37209

Course Details: This is Part Two of a two semester course that enhances the experiential learning of students in the education minor participating in the Jumpstart Program. Building on the knowledge base of the first semester, the course allows students to deepen their understanding of the social, emotional and behavioral needs of children in early childhood settings and reflect on how they have integrated what they learned during the experience.

Max Credits: 3
Min Credits: 3

02.401 Exploring Teaching

Course ID: 31976

Course Details: This course is for third and fourth year undergraduates who are considering teaching as a career. Focusing on students, teachers, classrooms and schools, the course will provide an overview of the historical, philosophical, legal and societal influences that shape education today. Field work in an elementary, middle or high school will be an integral component of the course.

Max Credits: 3
Min Credits: 3

02.420 Elementary Mathematics for Teaching: Numbers and Operations

Course ID: 2374

Course Details: This course examines the topic of Number and Operations for teaching mathematics to Elementary School students. The philosophy and content of this course reflect the National Council of Teachers of Mathematics Curriculum Focal Points for Pre-Kindergarten through Grade 8 Mathematics, as well as the Massachusetts Mathematics Curriculum Frameworks and the Common Core State Standards.

Max Credits: 3
Min Credits: 3

02.443 Methods of Teaching

Course ID: 33179

Course Details: Examines the methods of teaching students with moderate disabilities. Topics include curriculum (including the Massachusetts frameworks), IEPs, and instructional modifications appropriate for students with special needs.

Max Credits: 3
Min Credits: 3

UTL.101 STEP 1: Inquiry Approaches to Teaching

Course ID: 37449

Course Details: This course provides students with an introduction to teaching in order for them to explore a career as a middle or high school math or science teacher. During the courses, students pairs teach math and/or science lessons in a local elementary school classroom and receive feedback from a mentor teacher. Additionally, students are introduced to the theory and practice that is necessary to design and deliver excellent instruction. This course is the first step for those students interested in exploring the STEM TEACHING MINOR with UTeach UMass Lowell.

Max Credits: 1
UTL.102 STEP 2: Inquiry Based Lesson Design

Course ID: 37450

Course Details: Students who are exploring teaching as a career become familiar with the middle school setting by observing and discussing the middle school environment, and by teaching several lessons in a middle school classroom. They build upon and practice lesson design skills that were developed in Step 1 and also become familiar with excellent science and mathematics curricula for the middle school setting.

Max Credits: 1
Min Credits: 1

UTL.201 Knowing and Learning in Math and Science

Course ID: 37642

Course Details: The course starts by imparting the understanding that there is a science to learning and by having students examine ideas of what it means for an individual to know or understand something. This course focuses on several essential questions which enable students to explore how knowing and learning are structured with specific emphasis on mathematics and science. Students will come to understand what it means to know something, how we can understand student thinking and how theories of learning inform instructional decisions; in particular students will explore the idea that learning is a social activity. Students are prompted to reflect on their own ways of looking at various ideas and concepts and to consider alternative perspectives. Students will conduct an analysis of reasoning processes through a clinical interview process, one-on-one with learners engaging in problem solving. This course is required for the STEM TEACHING MINOR.

Max Credits: 3
Min Credits: 3

UTL.202 Interactions and Equity

Course ID: 37652

Course Details: This course examines the organization of instructional settings that maximize learning for all. Students will examine gender issues, cultural issues, bilingual education and learning disabilities as they impact learner success. A major portion of the course is a field experience in which students interview high school teachers, observe a high school classroom, then teach three lessons. The purpose of these experiences is to ensure that students recognize the diversity of students and their specific learning needs. This course is required for STEM TEACHING MINOR.

Max Credits: 3
Min Credits: 3

UTL.204 Perspectives on Mathematics and Science

Course ID: 37649

Course Details: This course examines the history and philosophy of mathematics and science. Students will explore a selection of topics and episodes in the history of science and mathematics recognizing that many gains in knowledge have emerged through struggle, and in spite of resistance from cultural, religious and social structures. Students will learn that ideas in science and mathematics are dynamic and that disagreement can often lead to major breakthroughs. Students must think critically about how K-12 STEM education texts portray the history and philosophy of science and mathematics. This course is required for the STEM TEACHING MINOR.

Max Credits: 3
Min Credits: 3

UTL.301 Project-Based Instruction

Course ID: 37650

Course Details: This is a key component of the Minor as it engages students in designing, implementing and employing a project-based curriculum. Students will observe project-based learning in high schools, before creating and leading their own field-based unit. The unit must incorporate major components of project-based learning, namely collaboration, formulating questions, making predictions, designing investigations, collecting and analyzing data, making products and sharing ideas. This course is required for the STEM TEACHING MINOR.

Max Credits: 3
Min Credits: 3

**UTL.302 Research Methods**

Course ID: 37651

Course Details: The goal of this course is to provide students with an understanding of and the ability to use tools that scientists use to solve problems. Students will also learn how scientists communicate their findings and engage in peer-review. Students design and carry out four independent inquiries, which they write up and present in the manner that is common in the scientific community. Students will work in multidisciplinary teams. The course is divided between class and lab sessions, but is primarily lab-based. The topics of the class sessions are: Curiosity and Scientific Inquiry, Experimental Design and Analysis, Statistics, Modeling, Presenting Scientific Information. Students conduct their inquiries, incorporate statistics to interpret their results and present their scientific work orally. This course is required for the STEM TEACHING MINOR.

Max Credits: 3

Min Credits: 3

**UTL.401 Practicum**

Course ID: 37653

Course Details: This is the culminating experience in the STEM Teaching Minor and must be taken in conjunction with the one-credit Practicum Seminar*. Students are required to spend 12 weeks (minimum) teaching a STEM subject in a middle or high school. Candidates are required to have (i) declared the STEM teaching minor, (ii) passed both MTEL examinations and (iii) maintained an overall GPA of 2.5.

Max Credits: 6

Min Credits: 6