

# Course Bulletin

<b>122287</b>	<b>Statistics</b>			
Subject: MATH	Catalog Nbr: 0166			
	2023 FALL	Primary	Joshua Enxing	Joshua.Enxing@tufts.edu
	2023 SUMR	Primary	Bruce Boghosian	bruce.boghosian@tufts.edu
	2024 SUMR	Primary	Chandler Smith	Chandler.Smith@tufts.edu
	2025 SPRG	Primary	Merek Johnson	Merek.Johnson@tufts.edu
<p>Statistical estimation, sampling distributions of estimators, hypothesis testing, regression, analysis of variance, and nonparametric methods.          Recommendations: MATH 165 or permission of instructor.</p>				

<b>144299</b>	<b>Human Development And Learning</b>			
Subject: EDO	Catalog Nbr: 0230			
<p>Introduction to theories of human development and learning, with a particular focus on relevance to education. Investigation of constructivist and socio-cultural perspective. Experience with a fundamental methodology, the clinical interview.</p>				

<b>144300</b>	<b>Education Of The Exceptional Child</b>			
Subject: EDO	Catalog Nbr: 0242			
<p>(Cross-listed w/ ED 142) Starting with a history of special education, introduces students to effective responses to the diverse needs of exceptional learners in an inclusive classroom. Building on a strengths perspective, topics include brain and biological development and supporting students with specific learning disabilities, executive functioning disorders, autism spectrum disorders, and mood and behavioral disorders in schools. Emphasizing the need for collaboration among school professionals, students participate in a case study and consultation project.</p>				

<b>144301</b>	<b>Critical Foundations of Education</b>			
Subject: EDO	Catalog Nbr: 0260			
<p>Considers the history of education within the borders of the United States as a struggle over access and resources, and as assertion of sovereignty or independence. Attention to reproduction of and resistance to hierarchies of class, race, gender, nation, and sexuality. Emphasizes the struggles of groups to gain access to or determine their own schooling in the 19th and 20th centuries.</p>				

<b>144305</b>	<b>Introduction to Teaching in the Elementary School</b>			
Subject: EDO	Catalog Nbr: 0203			
<p>Seminar examining issues that relate to curriculum and teaching in urban elementary schools. Topics focus on</p>				

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constructivist theories and critical perspectives of learning and development for children with diverse needs, interests, abilities, and educational and cultural backgrounds. Students in this course concurrently engage in a pre-practicum in local urban elementary schools.

<b>144306</b>	<b>Elementary Science and Mathematics Learning Environments</b>
Subject: EDO	Catalog Nbr: 0215
Through interviews of students, readings from STEM education research, and in-class science inquiry, mathematical problem solving, and design activities, participants develop multiple perspectives on the development of knowledge and reasoning in STEM. Students will consider current teaching practices in elementary science, mathematics, and integrated STEM courses, and they design their own instructional plans.	

<b>144307</b>	<b>Practice of Teaching Elementary STEM</b>
Subject: EDO	Catalog Nbr: 0225
Concurrent experiences teaching STEM in elementary school student teaching settings. Participants present video, transcripts, and student work from their teaching, primarily as data to study regarding their students' thinking: How to recognize, interpret, and respond to students' ideas and reasoning. Prerequisite: consent.	

<b>144308</b>	<b>Interdisciplinary Elementary Curriculum 1</b>
Subject: EDO	Catalog Nbr: 0216
This two-semester sequence of courses focuses on the curricula of language arts and social studies in the fall semester and on mathematics and science in the spring semester. Emphasis on the intersection between teacher knowledge and children's understanding of content and concepts.	

<b>144309</b>	<b>Interdisciplinary Elementary Curriculum 2</b>
Subject: EDO	Catalog Nbr: 0217
This two-semester sequence of courses focuses on the curricula of language arts and social studies in the fall semester and on mathematics and science in the spring semester. Emphasis on the intersection between teacher knowledge and children's understanding of content and concepts.	

<b>144310</b>	<b>Arts and Expression in the Elementary Classroom</b>
Subject: EDO	Catalog Nbr: 0295
This class examines the topic of color through the lens of humanities and aesthetics to mine the ways visual literacy can inform	

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and interface with a science, technology, engineering, and mathematics (STEM) curriculum. Specifically, students in this class will be introduced to some of the socio-economic and cultural history of color as a topic of study as well as its perceptual and aesthetic reception. Carefully chosen studio exercises performed in class and at home complement the academic content. These exercises will develop students' artistic sensitivity, inform their perception of color, and help hone visual sensibilities. The numerous drawing and color mixing, exercises are an integral part of the course as they enable students to explore how visual arts complement teaching and learning STEAM content courses.

<b>144311</b>	<b>Foundations of Literacies in Elementary Schools</b>
Subject: EDO	Catalog Nbr: 0290
This class focuses on both the conceptual and practical aspects of literacy instruction and learning, emphasizing literacy development and instruction for grades k-6. Overall this course is intended to develop an understanding of the theory and practices of literacy instruction that will allow for flexibility, critical understanding, and creativity in instruction. Students in this course will: (a) Deepen their understandings of the reading and writing process; (b) Reflect on themselves as a reader/writer and as a teacher of readers/writers; (c) Explore and critically evaluate classroom structures and materials to support developing readers and writers.	

<b>144313</b>	<b>Practice of Teaching in the Elementary School</b>
Subject: EDO	Catalog Nbr: 0204
Seminar examining issues that relate to curriculum and teaching in urban elementary schools. Topics focus on constructivist theories of learning and development for children with diverse needs, interests, abilities, and educational and cultural backgrounds. Students in this course concurrently engage in a pre-practicum in local urban elementary schools.	

<b>144315</b>	<b>Introduction To Teaching in the Middle School</b>
Subject: EDO	Catalog Nbr: 0201
A study of the aims, development, and practice of middle and high schools. Includes 75 hours of prepracticum observation and participation in a school setting. Students seeking initial teacher licensure are required to take this course during the semester prior to supervised student teaching.	

<b>144317</b>	<b>Practices of Teaching in the Middle School</b>
Subject:	Catalog Nbr:

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EDO 0202

Supervised classroom practice in middle or secondary school teaching with a weekly seminar. This course requires presence at the school for the entire school day for a minimum of twelve consecutive weeks.

**144318**

**Curriculum and Pedagogies in Science I**

Subject: Catalog Nbr:  
EDO 0211

Through interviews of students and readings from science education research, participants develop multiple perspectives on the development of scientific knowledge and reasoning, consider current teaching practices in middle and secondary school science, and design their own instructional plans.

**144319**

**Curriculum and Pedagogies in Mathematics I**

Subject: Catalog Nbr:  
EDO 0212

Explores models of learning, reasoning, and understanding in mathematics through readings from education and cognitive science research, practical experience, and experimental interviews in the context of secondary, postsecondary, middle, and elementary curriculum.

**144320**

**Curriculum & Pedagogies of Science and Mathematics II**

Subject: Catalog Nbr:  
EDO 0221

Concurrent experiences teaching science in K-12 student teaching, university assistantships, or other instructional settings. Participants present video, transcripts, and student work from their teaching, primarily as data to study regarding their students' thinking: How to recognize, interpret, and respond to students' ideas and reasoning. Prerequisite: consent.

**144321**

**Arithmetic for Middle School Teachers**

Subject: Catalog Nbr:  
EDO 0231

Covers number and operations topics often taught in the middle grades. Mathematical topics come from arithmetic with whole numbers and with fractions. Particular emphasis is placed on topics related to multiplication and division. The course also provides experience with core practices of mathematics as a discipline, including persevering on challenging problems, reasoning with quantities, attending to mathematical structures, and constructing and critiquing arguments. Students learn to reason about problem situations with math drawings (e.g. number lines) and to use that reasoning to develop explanations for many of the computations commonly taught in middle grades.

**144322**

**Algebra for Middle School Teachers**

Subject: Catalog Nbr:

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EDO 0232

EDO 232 builds on EDO 231 and covers proportional relationships and algebra topics often taught in the middle grades. Particular emphasis is placed on the role of multiplication and division in understanding proportional relationships and linear equations. The course also provides experience with core practices of mathematics as a discipline, including persevering on challenging problems, reasoning with quantities, attending to mathematical structures, and constructing and critiquing arguments. Students learn to reason about problem situations with math drawings (e.g., number lines) and to use that reasoning to see how topics from algebra, such as equations and slopes of lines, are a natural outcome of reasoning about multiplication and division.

**144402**

## **Foundations of Literacies in Middle Schools**

Subject: Catalog Nbr:  
EDO 0293

This course is designed to provide an understanding of language and the literacy processes for teaching in middle schools. The course emphasizes reading and writing in content areas, as well as instructional strategies to support students' literacy development. It focuses on the foundations of reading, writing, speaking, and listening and the ways they are developed and used in learning discipline-specific curriculum, including adaptations for culturally diverse and exceptional learners.

**144587**

## **Life and Environmental Sciences for Middle School Teachers**

Subject: Catalog Nbr:  
EDO 0233

This is a course in biological inquiry for MAT students who will be teaching Middle School sciences. We will primarily practice doing biological inquiry. We will also think critically about what it means to do biology and how the doing of biology is represented in curricula and standards. Finally, we will reflect on how our doing of biology helps us identify and cultivate our students doing biology, who may have a variety of different experiences and resources for engaging in this work. The course will address the CAP Standards (Curriculum, Planning, and Assessment) and Element 1.A.1 (Subject Matter Knowledge).