LSE
Living Learning Center in Science and Engineering

LSE 201 Opportunities in Science and Engineering
A survey of the various science and engineering disciplines. Guest speakers describe their respective fields of research and study and the opportunities for students entering the field today. The interdisciplinary nature of science and technology is emphasized. The course includes research laboratory tours and demonstrations.
1 credit

LSE 310-H Current Issues in Science and Engineering
A study of the issues and events that confront scientists and engineers today. Student presentations and student-led discussions cover such topics as ethics, social responsibilities, the environmental impact of technology, and the economics of research and technology.
3 credits

LSE 320-H Future Trends in Science and Engineering
A study of forecasts for developments in science and engineering in the 21st century and their predicted effects on society. Predictions about science and engineering from the early 20th century and their accuracy today. Readings and student-led discussion on essays written by leading scientists and engineers concerning predictions in their fields during the next century. Includes several presentations made by science and engineering faculty on their current research, focusing on the long-term effects of their research on their discipline and on society. Several research papers by students will be required.
Prerequisites: U3 or U4 standing; one course in science or engineering
3 credits

LSE 475 Undergraduate Teaching Practicum
Students work with the instructor in an LSE course in leading discussion sections, helping students improve research skills, or assisting with the educational program presented as part of coursework. Students meet regularly with the supervising instructor.
Prerequisites: U3 or U4 standing; permission of instructor and director of the minor
3 credits, S/U grading

MAE
Mathematics Secondary Education

MAE 301 Foundations of Secondary School Mathematics
A re-examination of elements of school mathematics, including topics in algebra, geometry, and elementary functions. Competence in basic secondary-level ideas and techniques are tested.
Prerequisites: MAT 200 and 211; admission to mathematics or applied mathematics secondary teacher education program
Corequisites: MAE 311
3 credits

MAE 302 Methods and Materials for Teaching Secondary School Mathematics
The goals of mathematics education, learning theories, mathematics curricula, lesson planning, evaluation and teaching strategies. Lesson plans are drawn up and presented to the group.
Prerequisites: MAE 301 and C or higher in MAE 311
Pre- or Corequisite: MAE 312
3 credits

MAE 311 Introduction to Methods of Teaching Secondary School Mathematics
Aspects of teaching mathematics on the secondary school level, including lesson designs based on the NCTM standards, cooperative learning, and technology in mathematics education. Students observe classes in middle school and high school settings.
Prerequisites: MAT 211; admission to mathematics or applied mathematics secondary teacher education program; department consent
Corequisite: MAE 301
3 credits

MAE 312 Micro-Teaching
Twice-weekly supervised classroom experience, tutoring, or working with small groups of students as a teacher’s aide.
Prerequisite: C or higher in MAE 311
Pre- or Corequisite: MAE 302
2 credits

MAE 330 Technology in Mathematics Education
Introduces students in the mathematics secondary teacher education program to techniques and requirements for effective use of technology in the mathematics classroom. Emphasis on projects. Use of graphing calculators and computer software such as Geometer’s Sketchpad.
Prerequisites: MAE 301 and 311
3 credits

MAE 447 Directed Readings in Mathematics Education
Tutorial studies in recent advances in mathematics education.
Pre- or Corequisite: MAE 312
1 credit

MAE 451 Supervised Teaching-Middle School Level Grades 7-9
Intensive supervised teaching in secondary schools. Students work in the school under the supervision of an experienced teacher.
Prerequisites: MAE 312; MAT 312, 319 and 360; AMS 310; permission of director of mathematics secondary teacher education program
Corequisites: MAE 452 and 454
6 credits, S/U grading

MAE 452 Supervised Teaching-High School Grades 10-12
Intensive supervised teaching in secondary schools. Students work in the school under the supervision of an experienced teacher.
Prerequisites: MAE 312; MAT 312, 319 and 360; AMS 310; permission of director of mathematics secondary teacher education program
Corequisites: MAE 451 and 454
6 credits, S/U grading

MAE 454 Student Teaching Seminar
Weekly discussions of teaching techniques and experiences, learning theory, curriculum content, and classroom problems.
Corequisites: MAE 451 and 452
3 credits

MAP
Mathematics Proficiency

MAP 101 Fundamentals of Arithmetic and Algebra
Arithmetic: fractions, decimals, and percent. Algebra: signed numbers, monomials, linear equations in one unknown, and word problems. This course is intended for students who have never studied algebra. Does not satisfy the entry skill in mathematics requirement or the D.E.C. category C requirement. Students who have otherwise satisfied D.E.C. category C may not register for this course. Overqualified students as determined by a placement test may be deregistered and directed to transfer to another course. Does not count toward graduation. A through C/Unsatisfactory grading only. The Pass/No Credit option may not be used.
3 credits

MAP 103 Proficiency Algebra
An intensive review of high school algebra as preparation for calculus and other mathematics. Facility with exponents, basic graphing, solving linear and quadratic equations in one variable, solving linear systems in two variables, polynomials, factorization of algebraic expressions, binomial theorem, and inequalities. Algebraic manipulations, analytic geometry of lines. Does not count toward graduation. A through C/Unsatisfactory grading only. The Pass/No Credit option may not be used.
Prerequisite: Level 2 on the mathematics placement examination or MAP 101
3 credits

MAR
Marine Sciences

MAR 101-E Long Island Sound: Science and Use
An introduction to one of the region’s most important coastal marine environments - Long Island Sound. The course traces the origin and development of the Sound; presents an overview of the natural physical, biological, chemical, and geological processes that characterize it; explores its importance to society and assesses how society’s uses of the Sound have affected it; evaluates attempts to manage it; and looks at the future of the Sound.
3 credits

MAR 104-E Oceanography
An examination of the World Ocean and the processes that control its major features and the life that inhabits it. Suitable for non-science majors.
3 credits

MAR 301 Environmental Microbiology
Microbiological mediation of natural processes in marine, freshwater, soil, and groundwater habitats, as well as microbial potential for remediation of pollutants and public health issues. The course includes a survey of taxonomic and metabolic diversity, elementary cell biology, nutrition, environmental controls on physiology and adaptations, biogeochemical cycles, and modern methods of sampling and analysis. Not for credit in addition to BIO 357.
Prerequisites: BIO 202; CHE 131 or 141
3 credits

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