LIN 476 Undergraduate Teaching Practicum II
Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. Students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. Students may not serve as teaching assistants in the same course twice. Not for major credit. 
Prerequisite: LIN 475; permission of instructor
3 credits, S/U grading

LIN 487 Directed Research in Linguistics
Qualified advanced undergraduates in linguistics may carry out individual research projects under the direct supervision of a faculty member. May be repeated up to a limit of six credits. 
Prerequisite: Permission of department
0-6 credits

LIN 488 Internship
Participation in local, state, and national public and private agencies and organizations. May be repeated up to a total of 12 credits. 
Prerequisites: 15 credits in linguistics; permission of department
0-6 credits, S/U grading

LIN 495 Senior Honors Project in Linguistics
First course of a two-semester sequence for linguistics majors who are candidates for the degree with honors. The project involves independent readings or research and the writing of a thesis. Students enrolled in LIN 495 are obliged to complete LIN 496 the next semester. Students receive only one grade upon completion of the sequence. 
Prerequisite: Admission to the Linguistics Honors Program
3 credits

LIN 496 Senior Honors Project in Linguistics
Second course of a two-semester sequence for linguistics majors who are candidates for the degree with honors. The project involves independent readings or research and the writing of a thesis. Students enrolled in LIN 495 are obliged to complete LIN 496 the next semester. Students receive only one grade upon completion of the sequence.
3 credits

LRN Learning Communities

LRN 104-G The Person
The first course in a two-semester sequence providing a broad cross-disciplinary approach to study in the humanities and social sciences, while laying the foundation for future academic success by fostering critical and conceptual skills through collaborative research projects. The course focuses on the variety of images of humanity's relationship with the natural environment and examines the implications of these images for human society. Students are expected to attend several events outside the regularly scheduled class time. 
Prerequisite: Enrollment in Freshman Learning Communities program
1 credit

LRN 131-G Thinking About Science
First course of a two-semester sequence exploring the history and philosophy of science from a broad cross-disciplinary background, providing humanities and social sciences perspectives on the students' other courses while laying the foundation for future academic success by fostering critical and conceptual skills through collaborative research projects. The course considers questions about the nature and scope of scientific method, as well as the ethical and political issues that emerge when science is considered as a social institution. Students are expected to attend several events outside the regularly scheduled class time. 
Prerequisite: Enrollment in Freshman Learning Communities program
1 credit

LRN 132-F Thinking About Biology
Second course of a two-semester sequence exploring the history and philosophy of science from a broad cross-disciplinary background, providing humanities and social sciences perspectives on the students' other courses while laying the foundation for future academic success by fostering critical and conceptual skills through collaborative research projects. The course focuses specifically on critical theoretical and social issues in the history and philosophy of biology. Students are expected to attend several events outside the regularly scheduled class time. 
Prerequisite: Enrollment in Freshman Learning Communities program
1 credit

LRN 134 Contemporary Issues in Medicine and Biology
A one-credit seminar focusing on contemporary issues in medicine and biology. May be repeated for credit as the topic changes. 
Corequisite: WRT 102
1 credit

LRN 141-G Perspectives from the Humanities
The first course in a two-semester sequence for students participating in the Freshman Learning Communities interested in information technology. The course provides an interdisciplinary introduction to key methods and ideas in the humanities. Topics may include the varieties of knowledge, the nature of personal identity, ethics, aesthetics, and others. 
Prerequisite: Enrollment in Freshman Learning Communities program
3 credits

LRN 142-H Technology in Social Perspective
The second of a two-semester sequence for students participating in the Freshman Learning Communities interested in information technology. The course focuses on case studies on the interaction of technology and society. Topics may include the history of technology, ideas of progress and growth, the influence of economics on technological development, environmental impacts, and others. 
Prerequisite: Enrollment in Freshman Learning Communities program
3 credits

MAE Mathematics Teacher Preparation

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 preparation program
Corequisite: MAE 311
3 credits

www.stonybrook.edu/ugbulletin 423
As printed January 2007
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 preparation program; department consent
Corequisites: 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 secondary mathematics teacher preparation 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 412 Issues in Teaching and Learning in Collegiate Mathematics
Investigation of the issues involved in the teaching and learning of introductory collegiate mathematics. A supervised teaching internship of undergraduate mathematics accompanies this seminar.
Prerequisite: MAE 302
4 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 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 teacher education program
Corequisites: MAE 453 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 Probability 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
4 credits

MAR 302 Marine Microbiology and Microbial Ecology
Introduction to the evolution, diversity, and importance of the microbial flora of the sea. Lectures highlight the physiological distinctions and ecological functions of each of the major microbial groups (viruses, bacteria, fungi, protozoans, algae). Particular emphasis is placed on the role of these microorganisms in many of the elemental (geochemical) cycles of the oceans. Aspects of the microbiota as agents of environmental pollution or detoxification are also discussed.
Prerequisites: BIO 201 and 202; CHE 132 or 142
Advisory Prerequisite: MAR 301
3 credits

MAR 303 Long Island Marine Habitats
The study of six representative marine environments around Long Island. Students visit the sites on weekly field trips, measuring environmental parameters and identifying common plants and animals. Using qualitative and quantitative methods in the field and in two weekly laboratory sessions, the class determines major factors that control the biological community in each habitat.
Prerequisites: U3 or U4 standing; BIO 201
Advisory Prerequisites: AMS 110 or other statistics course; MAR 101 or 104 or 333
3 credits

MAR 304-E Waves, Tides, and Beaches
A survey of water waves and tides, including both a description of the phenomena and the basic theory of waves and sediment transport. This background forms the basis for a description of shore processes including beaches, shoreline dynamics, and coastal erosion. Areas of current research are also discussed.
Prerequisites: MAT 127 or 132 or 142 or AMS 161
Advisory Prerequisites: MAR 101 or 104 or 333; PHY 122/124 or 126 or 132/134 or 142
3 credits

MAR 305 Experimental Marine Biology
Students design and conduct experiments in the laboratory and at local field sites, collect and analyze data, and use scientific literature to interpret and present results in papers and oral presentations.
Prerequisites: U3 or U4 standing; BIO 201. Advisory Prerequisites: CHE 131 or 141; AMS 110 or other statistics course; MAR 101 or 104 or 333
3 credits

MAR 308 Principles of Instrumental Analysis
The development of familiarity in the laboratory with the techniques and instrumentation used in environmental analytical chemistry, emphasizing determination of trace inorganic species. Primary emphasis on applications utilizing the absorption of electromagnetic radiation. Topics include metal determinations in sediment and in river water using molecular ultraviolet-visible and atomic absorption spectrometry.
Prerequisites: CHE 132/134 or 142/144
3 credits

MAR 315-H Conservation Biology and Marine Biodiversity
The fundamental concepts of Conservation Biology, a new synthetic field that incorporates principles of ecology, biogeography, population genetics, systematics, evolutionary biology, environmental sciences, sociol- ogy, anthropology, and philosophy toward the conservation of biological diversity. Examples drawn from the marine environment emphasize how the application of conservation principles varies from terrestrial, aquatic, and marine realms.
Prerequisite: BIO 351 or 353
3 credits