

**NATURAL SCIENCES  
(NATURAL SCIENCES DIVISION)**

**NS-100 INTRODUCTION TO ENVIRONMENTAL SCIENCE (4 cr.)** An introductory course for non-science majors. This course will cover the vast interdisciplinary subject of environmental science, which uses ecological principles to address a broad range of topics from conservation of single species to global issues such as global warming and climate change. These issues involve a complex array of information and applications from Ecology, environmental policy, politics, Geology, and Geography. Three hours of lecture and one 3-hour laboratory period per week. Pre-requisite: MATH 015 or satisfactory math placement. Lab fee.

**NS-150 INTRODUCTION TO NATURAL SCIENCES (3 cr.)** An introduction to science as a way of knowing. Examples are chosen from astronomy, genetics, genetic engineering, evolution and other timely topics. Pre-requisite: ENGL 101.

**NS-171 INTEGRATED SCIENCE I (3 cr.)** First of a two-semester sequence designed for the LCSC pre-service teachers to teach science in the elementary grades. NS171 provides a college-level understanding of the scientific knowledge base for the physical sciences taught in grades K-8 in most states. Pre-requisite: a grade of "C" or better in MATH 108 or MATH 137 or satisfactory math placement.

**NS-172 INTEGRATED SCIENCE II (3 cr.)** Second of a two-semester sequence. NS 172 provides a college-level understanding of the scientific knowledge base for the life and earth sciences taught in grades K-8 in most states. Pre-requisite: a grade of "C" or better in NS 171

**NS-173 INTEGRATED SCIENCE I RECITATION (1 cr.)** Students will have the opportunity to practice solving problems relating to fundamental physical scientific concepts in order to prepare themselves to teach science in the elementary grades with competence. The opportunity to become more familiar with scientific terminology will also be given.

**NS-190 DIRECTED STUDY IN NATURAL SCIENCE (1-12 cr.)**

**NS-192 SPECIAL TOPICS IN NATURAL SCIENCE (1-12 cr.)**

**NS-270 SCIENCE OUTREACH (1 cr.)** A course where students will learn about and participate in science outreach, involving visits to local elementary and secondary schools as well as those conducted on the LCSC campus. Students will assist others (both faculty and students in NS 470) in the presentation of outreach programs and will gain valuable skills in both outreach preparation and interpersonal communication.

**NS-275 FIELD EXPERIENCES IN SCIENCE (1 cr.)** A field-based experience integrating a variety of disciplines including, but not limited to, field biology, earth science, environmental chemistry, astronomy, and cultural history. No pre-requisites required.

**NS-290 DIRECTED STUDY IN NATURAL SCIENCE (1-12 cr.)**

**NS-291 WORKSHOP IN NATURAL SCIENCE (1-12 cr.)**

**NS-292 SPECIAL TOPICS IN NATURAL SCIENCE (1-12 cr.)**

**NS-295 PRACTICUM IN NATURAL SCIENCE (1-12 cr.)**

**NS-296 COOPERATIVE EDUCATION IN NATURAL SCIENCE (1-12 cr.)** This course combines instruction with on-the-job experience and thus adds a new dimension and relevance to the student's education. Contact the Division Chair for further information.

**NS-299 RESEARCH ASSISTANTSHIP (1-12 cr.)**

**NS-350 ETHICS: (3 cr.)** The primary purpose of the integrative 350 core course is to develop interdisciplinary abilities in ethical clarification with reference to at least two major contemporary issues. These courses focus principally on ethical concerns. Topics include the following subjects:

**POWER, PROGRESS AND ETHICS** Contemporary ethical issues, such as human health and the environment, will be treated from a variety of scientific and literary perspectives. The complex consequences of decision making in science on community welfare will be explored. Discussion, personal and literary accounts and social history will provide a variety of perspectives on these issues. This course is cross-listed with HUM 350.

**ENVIRONMENTAL INTERVENTION OR SCIENCE IN SOCIETY** Lectures, films, and discussions focus on the variety of effects caused by human intervention in natural ecosystems in the first course and on the impact of recent developments in science and technology on society in the second. Pre-requisite: Completion of the skills component of the General Education Core or permission of the instructor.

**NS-380 SENIOR SEMINAR (1 cr.)** Reading and research involving primary literature in the student's field of study. Topic-driven research will result in written and oral presentations.

**NS-390 DIRECTED STUDY IN NATURAL SCIENCE (1-12 cr.)**

**NS-395 PRACTICUM IN NATURAL SCIENCE (1-12 cr.)**

**NS-398 SENIOR PROJECT PROPOSAL (2 cr.)** Preparation of the proposal for Senior Research projects to be completed in NS499. Students will become familiar with the procedure by which proposals are prepared and submitted to funding agencies like the National Science Foundation (NSF). The format of the proposal is based on NSF proposal requests. The course will ensure that the research projects are well conceived, carefully planned, and have a reasonable chance of succeeding. All senior-research proposals are reviewed by a board of Natural Science faculty members. Proposals may be accepted, accepted with revisions, or returned for major revisions with a request for resubmission during the next semester's review. Pre-requisite: Junior Standing.

**NS-399 RESEARCH ASSISTANTSHIP (1-3 cr.)**

**NS-470 SCIENCE OUTREACH (1 cr.)** A course where students will learn about and participate in science outreach, involving visits to local elementary and secondary schools as well as those conducted on the LCSC campus. Students will also be responsible for designing and implementing at least program in the classroom setting, and will participate in peer assessment of other students' presentations, gaining valuable skills in outreach preparation and both interpersonal and large group communication. Pre-requisites: A grade of "C" or higher in Biology 181 or Chemistry 112 & NS 270.

**NS-475 FIELD EXPERIENCE (2 cr.)** A field based experience integrating a variety of

disciplines including, but not limited to, field biology, earth science, environmental chemistry, astronomy, and cultural history. Requires written and/or oral presentations as a part of the field experience. No pre-requisites required.

**NS-490 DIRECTED STUDY IN NATURAL SCIENCE (1-12 cr.)**

**NS-491 WORKSHOP IN NATURAL SCIENCE (1-12 cr.)**

**NS-492 SPECIAL TOPICS IN NATURAL SCIENCE (1-12 cr.)**

**NS-495 PRACTICUM IN NATURAL SCIENCE (1-12 cr.)**

**NS-496 COOPERATIVE EDUCATION IN NATURAL SCIENCE (1-12 cr.)** This course combines instruction with on-the-job experience and thus adds a new dimension and relevance to the student's education. Contact the division chairperson for further information.

**NS-499 RESEARCH PROJECT AND SEMINAR IN NATURAL SCIENCE (1-3 cr.)**

Students will conduct and communicate the results of a research project in the Natural Sciences Division. Topics may include the historical, philosophical, cultural and environmental aspects, and the processes of natural science. Requirements of students include satisfactory oral presentation and defense of their research and submission of a written report approved by their advisor to the Natural Sciences Division. Pre-requisite: NS 398.