NATURAL SCIENCE NSC

College of Natural Science

100 Drew Freshman Seminar
Fall. 2(2-0) P: (MTH 1825 or concurrently) or (MTH 116 or concurrently) or (MTH 132 or concurrently) R: Approval of college. SA: NSC 201
Academic and non-academic skills and strategies for successful college transition.

102 Preprofessional Freshman Seminar
Fall, Spring. 1(1-0) R: Open to freshmen or approval of department.
Overview of human health care professions with emphasis on academic and nonacademic undergraduate preparation, campus resources, communication and computer skills, and collaborative learning.

104 Freshman Seminar Away in Natural Sciences
Fall. 2(1-2) R: Open to freshmen in the College of Natural Science. Approval of college.
Introduction to scientific scholarship and academic inquiry via an intensive empirical learning experience. Strategies for academic success in science and enhancing the college experience.

192 Environmental Issues Seminar
Fall. 1 credit. Interdepartmental with Agriculture and Natural Resources and Communication Arts and Sciences and Engineering and Social Science. Administered by Natural Science. R: Open to students in the College of Communication Arts and Sciences or in the College of Engineering or in the College of Natural Science or in the College of Social Science. Approval of college.
Environmental issues and problems explored from a variety of perspectives, including legal, scientific, historical, political, socio-economic, and technical points of view.

200 Drew Sophomore Seminar
Fall. 2(2-0) P: NSC 100 or approval of college R: Approval of college. SA: NSC 202
Career exploration and preparation through service-learning experience.

203 Drew Laboratory Directed Studies
Fall, Spring, Summer. 1 to 2 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to students in the Charles Drew Science Enrichment Laboratory.
Using topics related to a faculty member's ongoing research, students explore the relationship between science and technology and social issues.

292 Applications in Environmental Studies
Spring. 2(1-2) Interdepartmental with Agriculture and Natural Resources and Communication Arts and Sciences and Engineering and Social Science. Administered by Natural Science. R: Open to students in the Environmental Studies Specialization.
Community engagement project. Projects vary depending on student's major and area of environmental interest.

390 Special Problems
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department.
Faculty directed individualized study of an interdisciplinary problem.

475 International Field Studies in Natural Science
Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Approval of college; application required.
Contemporary issues in environmental, geological, biological or human health-related sciences of a specific study abroad location.

476 Natural Science Field Studies in Selected U.S.A. Locations
Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Approval of college; application required.
Contemporary issues in environmental, geological, biological or human health-related sciences of a selected domestic study away location.

490 Special Problems
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department.
Faculty directed individualized study of an interdisciplinary problem.

491 Selected Topics
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department.
Selected interdisciplinary topics not normally covered in other courses.

493 Internships in Natural Science
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course. P: Completion of Tier I Writing Requirement R: Open to sophomores or juniors or seniors in the College of Natural Science. Approval of college; application required. Not open to students with credit in NSC 497.
Educational employment experience applying scientific and or research training in industry government and non-profit.

495 Capstone in Human Biology (W)
Fall, Spring. 2(2-0) P: Completion of Tier I writing requirement. R: Open to seniors in the Human Biology Major.
Integration of human biology disciplines with a focus on health and disease.

496 Directed Study in Human Biology
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: Completion of Tier I writing requirement.
Directed studies in human biology.

497 Internship in Human Biology
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: Completion of Tier I writing requirement. Not open to students with credit in NSC 493.
Practical experience applying human biology training outside the classroom setting.

498 Research in Human Biology
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: Completion of Tier I writing requirement.
Research in faculty laboratories

499 Research
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to juniors or seniors in the College of Natural Science.
Research in faculty laboratories. Oral and written presentations.

810 Biological Science Transmission Electron Microscopy Laboratory
Fall, Spring. 3(1-4) R: Approval of department.
Use of transmission microscope and preparative equipment in the biological sciences. Sample preparation techniques. Sectioning for electron microscopy.

815 Physical Science Transmission Electron Microscopy Laboratory
Fall, Spring. 3(1-4) R: Approval of department.
Experimental methods for transmission electron microscopy in the physical sciences, including digital photography, imaging, diffraction, and microanalysis.

816 Advanced Physical Science Transmission Electron Microscopy Laboratory
Fall, Spring. 1(1-1) A student may earn a maximum of 5 credits in all enrollments for this course. R: Approval of department.
Advanced experimental methods of transmission electron microscopy for the physical sciences. Bright field-dark field imaging. High resolution transmission electron microscope imaging. Nano beam diffraction and convergent beam diffraction. Scanning transmission electron microscope imaging, energy filtered transmission electron microscope imaging, and electron energy loss spectroscopy.

820 Scanning Electron Microscopy; Energy Dispersive X-ray Microanalysis
Fall, Spring. 3(2-2) RB: NSC 802 or concurrently
Use of scanning electron microscope and energy dispersive x-ray microanalysis. Machine variables, artifacts, quantitative analysis, specimen preparation, darkroom procedures.

825 Special Problems in Microscopy
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 40 credits in all enrollments for this course. RB: NSC 802 and (NSC 810 or NSC 820 or NSC 837)
Use of microscopy techniques for selected research topics.

837 Confocal Microscopy
Fall, Spring, Summer of odd years. 3(2-2)
Confocal imaging, theory and practice. Optics, lasers, light paths for transmission, florescence and reflection imaging. Advanced techniques including Fluorescence recovery after photobleaching (FRAP), Förster resonance energy transfer (FRET), spectral imaging, laser capture and two-photon microscopy.

840 Writing in the Sciences
Fall, Spring. 2(2-0) A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with Arts and Letters. Administered by Natural Science.
Discussion and critique of students' writing in peer response workshop groups