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.

103  Strategies for Success
Fall, Spring. 1(1-0) R: Approval of department.
Development of effective academic problem-solving, and other strategies necessary for college and career success. Discussion groups, study groups, and peer mentoring. Connections with University resources.

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, Spring. 1 credit. A student may earn a maximum of 4 credits in all enrollments for this course. Interdepartmental with Agriculture and Natural Resources and Communication Arts and Sciences and Engineering and Social Science. Administered by Natural Science. R: Open only to students in the College of Agriculture and Natural Resources or College of Engineering or College of Natural Science or College of Communication Arts and Sciences or 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. 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  Application in Environmental Studies
Fall. 2(1-2) Interdepartmental with Agriculture and Natural Resources and Communication Arts and Sciences and Engineering and Social Science. Administered by Natural Science. P: NSC 192 R: Open only to students in the Specialization in Environmental Studies.
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  Cooperative Education
Fall, Spring, Summer. 1 credit. Fall: W. K. Kellogg Biological Station. Spring: W. K. Kellogg Biological Station. Summer: W. K. Kellogg Biological Station. A student may earn a maximum of 3 credits in all enrollments for this course. P: Completion of Tier I Writing Requirement R: Approval of college; application required.
Educational employment experiences in industry and government related to the student’s major.

495  Capstone in Human Biology (W)
Fall, Spring. Summer. 2(2-0) P: Completion of Tier I writing requirement. R: Open only to seniors in the Human Biology or Lyman Briggs 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. 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.
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 only to juniors or seniors in the College of Natural Science with a teacher certification option.
Research in faculty laboratories. Oral and written presentations.

810  Biological Science Transmission Electron Microscopy Laboratory
Fall, Spring. 3(1-4) R: Approval of department.

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.

820  Scanning Electron Microscopy; Energy Dispersive X-ray Microanalysis
Fall, Spring. 3(2-2) RB: NSC 802 or concurrently.

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.
Food Safety Seminar Series
828 Fall, Spring. 1(1-0) Interdepartmental with Agriculture and Natural Resources and Social Science and Veterinary Medicine. Administered by Veterinary Medicine. RB: Enrollment in graduate program in related discipline
Selected current topics covering the broad areas of food safety as they relate to production, processing, transport, microbiology, toxicology, and social and human dimensions.

Problems in Food Safety
829 Fall. 1(1-0) Interdepartmental with Agriculture and Natural Resources and Social Science and Veterinary Medicine. Administered by Veterinary Medicine. RB: Enrollment in graduate program in related discipline
In-depth discussion of selected problems in food safety.

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

Writing in the Sciences
840 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