20-806-274 General Microbiology
General Microbiology gives a broad overview of the structure, function, ecology, nutrition, physiology and genetics of microorganisms and a discussion of medical, industrial, agricultural and food microbiology. Also includes an introduction to standard techniques and procedures used in the microbiology laboratory. Prerequisites: College Reading Strategies, 10-808-101 or English 1, 20-801-201 or Written Communications, 10-801-195 or COMPASS Reading score of 75 and higher. Credits: 5.

20-806-280 Environmental Issues
Environmental Issues is an introductory (non-laboratory) survey course entirely appropriate for first-year students. Environmental Issues explores diverse problems of human impact on natural systems. Though fundamentally grounded on the basic principles of biology and ecology, this course is designed to encourage interdisciplinary thinking about critical environmental problems. Students explore chemical, biological, political and ethical interactions of environmental systems on scales that range from local to international. The course prepares students for Principles of Ecology and other more advanced courses in Environmental Studies. This course transfers to UW-Madison at the elementary level. Prerequisites: None. Credits: 4.

20-806-281 Ecology/Conservation Biology
Ecology and Conservation Biology is an intermediate-level (non-laboratory) course, most appropriate for second-year students. A basic knowledge of ecosystem structure and function is used as a springboard to grasping the impact of human activities on natural populations. Emphasis is on computer modeling of endangered species, dwindling populations of endemics, species under threat of over-harvesting, and other groups at risk. This course requires the background knowledge of an introductory environmental science course. This course transfers to UW Madison at the intermediate level as Zoology/Wildlife Ecology 360. Prerequisites: None. Credits: 3.

20-806-286 Environmental Science
Environmental Science is an introductory survey course appropriate for first-year students. This course includes a laboratory component and field trips designed to engage students in exploring environmental systems in the modern world. It emphasizes the interpretation of environmental data presented in graphs and figures and will sharpen student analytical skills through exercises based on both quantitative reasoning and reading comprehension. This course transfers to UW-Madison at the elementary level as IES 126. Offered during the spring semester. Prerequisites: College Reading Strategies, 10-808-101 or English 1, 20-801-201 or Written Communications, 10-801-195 or COMPASS Reading score of 75 and higher. Credits: 4.

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Courses Offered in the Biological Sciences
Liberal Arts Transfer Program

BIOLOGICAL SCIENCES

10806105 - Principles of Animal Biology
20806226 - Introduction to Human Biology
20806231 - Biology of Human Aging
Transfer as Biological Science Electives

ANATOMY AND PHYSIOLOGY

20806206 - General Anatomy and Physiology
20806207 - Anatomy and Physiology 1
20806208 - Anatomy & Physiology 2
Transfers as Anatomy Electives

MICROBIOLOGY

20806273 - Microbiology
Transfers as a Microbiology Elective
20806274 - General Microbiology
Transfers as MICROBIOLOGY 101/102

ZOOLOGY

20806203 - Introductory Zoology
Transfers as ZOOLOGY 101 or 102

20806281 - Ecology/Conservation Biology
Transfers as ZOOLOGY 360

BOTANY

20806215 - Botany
Transfers as BOTANY 130

ENVIRONMENTAL STUDIES

20806280 - Environmental Issues
Transfers as an Environmental Studies Elective
20808628 - Environmental Science
Transfers as ENVIRONMENTAL STUDIES 126

Biological Sciences

The Center for Arts & Sciences provides opportunities in the areas of arts, engineering and science. The Liberal Arts Transfer program serves students who wish to earn an Associate in Arts or Associate in Science degree and/or wish to gain college credits for transfer. Completion of an associate’s degree program at Madison College will usually satisfy the first two years of general education requirements for four-year colleges and universities.

Biological science courses currently offered are grouped by subject (left panel); transfer to UW-Madison is shown. Students who have another four-year institution in mind should verify the transferability of Madison College courses using the Transfer Information System for UW System institutions (http://tis.uwsysa.edu/) or by contacting the appropriate school.

Biological science course requirements for Allied Health programs are organized by program (right panel). Courses in the biological sciences may fulfill elective requirements for these or other programs within Madison College and should be verified with your program administrator.

Please see the course descriptions below to identify prerequisites and credits offered for these courses.

Course Requirements in the Biological Sciences for Allied Health Fields

- Medical Administrative Specialist
  - Medical Transcriptionist

- Dental Hygienist
  - Clinical Laboratory Technician
  - Respiratory Therapist

20-806-105 Principles of Animal Biology
Principles of Animal Biology is an introductory biology course focusing on general biological principles, cell structure and function, genetics, comparative anatomy and physiology, evolution, and ecosystems. It includes dissection of various fresh and preserved materials. Prerequisite: One year of biology, chemistry, and algebra at the high school level or above, with a grade of C or better. Credits: 4.

20-806-203 Introductory Zoology
This introductory course covers general biological principles with an emphasis on cell structure and function, genetics, and vertebrate anatomy and physiology. Consideration is also given to diversity within the animal kingdom and environmental interactions. It includes three periods of lecture per week, two periods of laboratory and a one-period discussion session. Prerequisite: completion of high school biology and chemistry and College Reading Strategies, 10-808-101 or English 1, 20-801-201 or Written Communications, 10-801-195 or COMPASS Reading score of 75 and higher. Credits: 4.

20-806-206 General Anatomy and Physiology
General Anatomy and Physiology features lectures and laboratory dealing with the human body as an integrated structural and functional unit, including the circulatory, respiratory, digestive, excretory, reproductive, nervous, endocrine, muscular, and skeletal systems, in addition to cell structure and physiology. It includes dissection of fresh and preserved material as well as examination of a human cadaver. This course is not acceptable where a one-semester Anatomy and Physiology course is required. Prerequisite: Consent of instructor. Credits: 4.

20-806-207 Anatomy and Physiology 1
Features lectures and laboratory dealing with the human body as an integrated structural and functional unit, including basic anatomical and directional terminology, fundamental concepts and principles of cell biology, histology, integumentary, skeletal, muscular, endocrine, and nervous systems, and the special senses. It includes dissection of various fresh and preserved materials as well as examination of a human cadaver. This course is the first semester of a two-semester sequence. College-level chemistry is recommended. Introductory college level biology course recommended. Prerequisite: One year of high school biology or one semester of college-level chemistry and College Reading Strategies, 10-808-101 or English 1, 20-801-201 or Written Communications, 10-801-195 or COMPASS Reading Score of 75 or higher. Credits: 4.

20-806-208 Anatomy and Physiology 2
Anatomy and Physiology 2 features lectures and laboratory exercises dealing with the human body as an integrated structural and functional unit including the cardiovascular system, lymphatic system and immunity, respiratory system, digestive system and metabolism, urinary system, fluid/electrolyte balance and acid/base balance, and reproductive system. It includes dissection of a cat as well as examination of a human cadaver. Note: this is the second semester course of a two-semester sequence and is not acceptable where a one-semester Anatomy and Physiology course is required. Prerequisite: 20-806-207, or consent of instructor. Credits: 4.

20-806-215 Botany
Plant science deals with a wide variety of organisms that are of great interest and are basic to our survival. These organisms are viewed from various perspectives-taxonomic, physiological, ecological, etc.-in hopes of developing an overall understanding and appreciation of their value and beauty. This course emphasizes taxonomy and evolution, physiology, anatomy and ecology. A survey of plants and plant-like organisms is presented. Prerequisites: College Reading Strategies, 10-808-101 or English 1, 20-801-201 or Written Communications, 10-801-195 or COMPASS Reading score of 75 or higher. Credits: 4.

20-806-226 Introduction to Human Biology
This is an introductory course designed for students who want a laboratory science but are not majoring in biology. It emphasizes the structure of the human body and the functional interrelationships of the body’s systems. Consideration is also given to human genetics, human evolution, ecology, and the role that humans play in the environment. This course includes three hours of lecture per week, two hours of laboratory and a one-hour discussion session. Note: this course does NOT meet the requirements for 20-806-207 or 208, Anatomy and Physiology 1 or 2, or 20-806-206, General Anatomy and Physiology. Credits: 5.

20-806-231 Biology of Human Aging
Biology of Human Aging focuses on biological phenomena associated with aging, including theories and characteristics of aging, the reversibility and irreversibility of bodily functions, and behavioral alterations as they are affected by neurological, immunological, endocrinological, myological, and local and circulatory changes. Prerequisites: none. Credits: 4.

20-806-273 Microbiology
Microbiology addresses pathogenic and normal flora microbes (bacteria, fungi, parasites, and viruses), their structure and function, metabolism, nutrition, genetics, growth and their relationship to humans and the environment. This course examines human infectious disease including general diagnosis and treatment, transmission, host defense mechanisms, and processes used to control the growth and spread of infectious agents. This course includes an introduction to standard techniques and procedures used in the microbiology laboratory. Prerequisites: College Reading Strategies, 10-808-101 or English 1, 20-801-201 or Written Communications, 10-801-195 or COMPASS Reading score of 75 and higher. Credits: 4.