

Advanced Health Careers Preparatory Certificate (AHPC)

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The Advanced Health Careers Preparatory Certificate is designed for students who already hold a degree and need to complete courses in biology, chemistry, or other fields in order to meet entrance requirements for advanced programs in health-related fields. Students work closely with an advisor to select courses that fulfill requirements for a specific institution.

Advanced Health Careers Preparatory Certificate (AHPC)

Program Prerequisite: A bachelor's degree from an accredited institution of higher education, or Program Advisor consent, is required to enroll in this program.

Semester 1	Lec	Lab	Credits
XXX XXX AHPC Elective 1			4
XXX XXX AHPC Elective 2			3
Semester 2			
XXX XXX AHPC Elective 3			4
XXX XXX AHPC Elective 4			3
Total Credits:	0	0	14

Electives

AHPC Electives

Complete at least 14 credits from courses listed below, with a minimum grade of C for all courses. Students should consult with the Program Advisor before registering for courses.

Biology

BIO 115	Human Genetics	3
BIO 131	Biology 1	5
BIO 132	Biology 2	5
BIO 151	Anatomy and Physiology 1	4
BIO 152	Anatomy and Physiology 2	4
BIO 220	Microbiology	3
BIO 230	Pharmacology	3
BIO 240	Pathophysiology	3

Chemistry

CHE 110	Fundamentals of Chemistry	4
CHE 111	Bio-Organic Chemistry	4
CHE 121	General Chemistry 1 ¹	4
CHE 122	General Chemistry 2 ²	4
CHE 201	Organic Chemistry 1 ³	3
CHE 202	Organic Chemistry 2 ⁴	3

Other Electives

DT 120	NUTRITION FOR A HEALTHY LIFESTYLE	3
PSY 225	Lifespan Development	3

¹ must co-register for CHE 131 General Chemistry 1 Lab

² must co-register for CHE 132 General Chemistry 2 Lab

³ must co-register for CHE 211 Organic Chemistry 1 Lab

⁴ must co-register for CHE 212 Organic Chemistry 2 Lab

Courses

BIO 100 Integrated Biology and Skills for Success in Science

6 Credits. 5 Lecture Hours. 3 Lab Hours.

A course on scientific, mathematical, and laboratory skills needed for success in anatomy and physiology courses required for Health and Public Safety majors, as well as science courses in all majors. Topics include: biologic processes, biochemical principles, math fundamentals, and introductory lab skills. Students must pass a comprehensive competency exam.

Prerequisites: AFL 085 and AFM 090 or appropriate placement test score

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=100subject_code=BIO)

BIO 111 Biology: Unity of Life

4 Credits. 3 Lecture Hours. 2 Lab Hours.

A course on characteristics shared by all living organisms. Topics include: the nature of science, chemistry of life, cell biology, energetics and biochemical pathways, cell division, genetics, molecular biology, and the origin of life.

Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=111subject_code=BIO)

BIO 112 Biology: Diversity of Life

4 Credits. 3 Lecture Hours. 2 Lab Hours.

A continuation of BIO 111. Topics include: taxonomy and evolution of animals, plants, fungi, protists, bacteria, and viruses; animal behavior; ecology; population growth; and conservation biology.

Prerequisites: BIO 111

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=112subject_code=BIO)

BIO 115 Human Genetics

3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on human traits, genetic conditions, and inheritance. Topics include: DNA structure, patterns of inheritance, meiosis, karyotypes, genetic engineering, and societal implications of an individual's genetic identity.

Prerequisites: BIO 111 or BIO 131 (minimum grade C for either)

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BIO 117 Human Body in Health and Disease

3 Credits. 3 Lecture Hours. 0 Lab Hour.

Fundamentals of the structure and function of the human body. Topics include: anatomy, normal function contrasted with dysfunction, and common diseases of body systems including symptoms and treatments.

Prerequisites: AFM 095 or appropriate placement test score, BIO 100 or BIO 111 or BIO 131 or BIO 151 or HS Biology within the last 7 years (minimum grade C for all), or BMT 151

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BIO 127 Human Body in Health and Disease Laboratory

1 Credit. 0 Lecture Hour. 2 Lab Hours.

A laboratory course that accompanies BIO 117. Laboratory experiences include: exercises, slides, models, and animal organ dissections.

Prerequisites: BIO 100 or BIO 111 or BIO 131 or BIO 151, or HS Biology within the last 7 years (minimum grade C for all), or BMT 151

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BIO 131 Biology 1

5 Credits. 3 Lecture Hours. 4 Lab Hours.

A course on the chemistry of life. Topics include: cellular structure and function; characteristics of life; theory of evolution; understanding DNA and its role in heredity, regulation of biological systems, bioenergetics and biochemical pathways; and current developments in biotechnology.

Prerequisites: BIO 111 (minimum grade C) or high school Biology within past 7 years (minimum grade C)

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BIO 132 Biology 2

5 Credits. 3 Lecture Hours. 4 Lab Hours.

A continuation of BIO 131. Topics include: scientific theory, history of scientific discovery, evolutionary principles, form and function of living organisms, biological classification, behavior of organisms and their relationships to biological systems, ecological systems, applications of biology, and sustainability.

Prerequisites: BIO 131 (minimum grade C)

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=132subject_code=BIO)

BIO 151 Anatomy and Physiology 1**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on the structure and function of the human body. Topics include: orientation to anatomy and physiology; cellular function; tissues; special senses; and integumentary, skeletal, muscular, and nervous systems.

Prerequisites: BIO 111 and (CHE 100 or CHE 110) or, (high school Biology and Chemistry within past 7 years) or BIO 100 minimum grade C for all

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BIO 152 Anatomy and Physiology 2**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A continuation of BIO 151. Topics include: endocrine, cardiovascular, immune, respiratory, digestive, urinary, and reproductive systems; metabolism; fluid and electrolyte balance; and human growth and development.

Prerequisites: BIO 151 (minimum grade C)

View Sections (http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=152subject_code=BIO)

BIO 198 First Year Special Topics in Biology**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Biology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: None

View Sections (http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=198subject_code=BIO)

BIO 199 First Year Independent Project in Biology**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Biology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Biology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

View Sections (http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=199subject_code=BIO)

BIO 210 Cross Sectional Anatomy**2 Credits. 1 Lecture Hour. 2 Lab Hours.**

A course on sectional anatomy of major human structures including the head, neck, thorax, abdomen, pelvis and extremities; and organ relationships in the axial, coronal, and sagittal planes.

Prerequisites: BIO 152 (minimum grade C)

View Sections (http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=210subject_code=BIO)

BIO 220 Microbiology**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on microbiology and infectious disease. Topics include: microbial taxonomy and identification, microbial cell structure, microbial genetics, metabolism, biotechnology, epidemiology, and immunology.

Prerequisites: BIO 132 or BIO 151 (minimum grade C for either)

View Sections (http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=220subject_code=BIO)

BIO 230 Pharmacology**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on clinical drug categories and therapies. Topics include: pharmacokinetics; pharmacodynamics; drug classes and schedules; drug approval and regulation; modes of administration; and indications, mechanism of action, and adverse effects.

Prerequisites: BIO 152 (minimum grade C)

View Sections (http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=230subject_code=BIO)

BIO 240 Pathophysiology**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental clinical concepts of disease processes. Topics include: terminology, clinical presentations, manifestations, and diagnostic and therapeutic activities.

Prerequisites: BIO 152 (minimum grade C)

View Sections (http://webapps.cincinnati.state.edu/wwwTools/MCL/default.aspx?course_number=240subject_code=BIO)

BIO 250 Cell Biology

5 Credits. 3 Lecture Hours. 4 Lab Hours.

A course on the structure and function of cells. Topics include: cell structure and organelles, membrane function, cell respiration and photosynthesis, intracellular transport, cell to cell communication, and cell division.

Prerequisites: BIO 132 and CHE 100 or CHE 110 (minimum grade C for all)

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=250subject_code=BIO)

BIO 260 Genetics

5 Credits. 3 Lecture Hours. 4 Lab Hours.

A course on mechanisms of heredity and genetics. Topics include: DNA and chromosome structure, transcription and gene regulation, replication and cell division, patterns of inheritance, genetic recombination, mutations and their repair, and genetics of cancer development and evolution.

Prerequisites: BIO 131 and CHE 100 or CHE 110 (minimum grade C for all)

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=260subject_code=BIO)

BIO 270 Ecology

5 Credits. 3 Lecture Hours. 4 Lab Hours.

A course on interrelationships between organisms and their natural environments. Topics include: ecology and evolution; population ecology, density, dispersion, and dispersal; metapopulations; competition and predation; community structure, succession, and nutrient cycling; and sustainability.

Prerequisites: BIO 132 or BIO 152, and CHE 100 or CHE 110 (minimum grade C for all)

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=270subject_code=BIO)

BIO 275 Animal Behavior

5 Credits. 3 Lecture Hours. 4 Lab Hours.

A course on the diversity of animal behaviors examined from mechanistic, ecological and evolutionary perspectives. Topics include: genetic, physiological, neural, and developmental bases of behavior; animal learning and social behavior; predator-prey interaction; and communication, reproduction, mating, and parental systems.

Prerequisites: BIO 132 or BIO 270, and CHE 100 or CHE 110 (minimum grade C for all)

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=275subject_code=BIO)

BIO 298 Second Year Special Topics in Biology

1-9 Credits. 0 Lecture Hour. 0 Lab Hour.

A course on selected topics related to Biology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: None

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=298subject_code=BIO)

BIO 299 Second Year Independent Project in Biology

1-9 Credits. 0 Lecture Hour. 0 Lab Hour.

A project related to Biology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Biology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Vary by section

View Sections (http://webapps.cincinnatiastate.edu/wwwTools/MCL/default.aspx?course_number=299subject_code=BIO)