

Metropolitan Community College
Environmental Health Transfer Articulation Agreement
Bachelors Degree in Environmental Health

Purpose: This program provides students with the knowledge and skills necessary to work as an environmental health professional. Environmental health is the science of preventing physical, chemical or biological hazards from adversely impacting human health or the ecological balances that sustain our environment. Career opportunities include professional positions with public health departments, environmental protection agencies, environmental consultants and occupational health and safety divisions of industry. The transfer program through Missouri Southern State University is fully accredited by the National Environmental Health Science and Protection accreditation Council (EHAC).

General Education Requirements (fulfills requirements in Area A – H at MSSU)

MSSU	Credit Hours	Transfer Institution	Credit Hours	Total Credit Hours Required
Area A: Written Communication				
ENG 101 College Composition I (WI)	3	ENGL 101	3	6
ENG 102 College Composition II (WI)	3	ENGL 102	3	
Area B: Oral Communication				
COMM 100 Oral Communication	3	SPDR 100	3	3
Area C: Mathematics				
MATH 130 College Algebra	3	MATH 120	3	3
MATH 140 Algebra & Trigonometry	5	MATH 150	5	
MATH 150 Calculus w/ Analytic Geom I	5	MATH 180	5	
Area D: Life and Physical Sciences				
At least 3 hours of biological science with lab, such as BIO 101, 105, 110 and 121	3*	BIOL 101 <i>or</i> BIOL 109	5 ea	3
At least 3 hours of microbiology, such as BIO 231	3*	BIOL 208	5	3
At least a total of 6 hours of general chemistry with labs, such as CHEM 151 or 152	6*	CHEM 111 CHEM 112	5 ea	6
At least 3 hours of organic chemistry with lab, such as CHEM 301	3*	CHEM 205	5	3
At least 3 semester hours of physics, such as PHYS 150 or 151	3*	PHYS 130	5	3
Total Hours of science required to fulfill EHAC: 24				
*See Page 99 of the MSSU Catalog for further details on EHAC Science Criteria				
Area E: Social and Behavioral Science				
1. Required Courses:				6
HIST 110 U.S. History 1492-1877 <i>or</i> HIST 120 U.S. History 1877-Present	3 ea	HIST 120 <i>or</i> HIST 121	3 ea	3
PSC 120 Govt: U.S., State & Local	3	POLS 136	3	3

2. Select two courses w/ different prefixes				6
ANTH 101 General Anthropology ECON 180, 201 or 202 Economics GEOG 101 Intro to Geography SOC 110 Intro to Sociology PSY 100 General Psychology	3 ea	ANTH 110 ECON 110 or 210 GEOG 105, 113 or 114 PSYC 140 SOCI 160	3 ea	
Area F: Humanities and Fine Arts				
1. Select One				3
ART 110 Art Appreciation MUS 110 Music Appreciation MUS 106 World Music TH 110 Theatre Appreciation	3 ea	ART 108 MUSI 108, 116 or 160 SPDR 106	3 ea	
2. Select One				3
ENG 150 Intro to Literature ENG 305 Short Story ENG 261 or 262 World Literature ENG 271 or 272 British Literature ENG 281 or 282 American Literature PHIL 201 Intro to Philosophy PHIL 212 Ethics	3 ea	ENGL 120, 150, 151, 220, 221 or 223 PHIL 100 or 203	3 ea	
Area G: Health and Wellness				
KINE 103 Lifetime Wellness	2	PHED 157	2	2
Area I***				
International Requirements (this is a MSSU institutional requirement, students encouraged to complete this course at MSSU)				
ANTH 155 Anthropology/Archaeology ANTH 342 Comparative Cultures CJAD 301 International Justice Systems CJAD 370 International Terrorism COMM 305 Intercultural Comm. EDUC 280 Foundations Global Education ENG 385 Continental Novel GEOG 211 Regions & Nations GEOG 310 Human & Cultural Geography HIST 130 or 140 Western Civilization HIST 150 Asian Civilization HIST 160 History of Latin America IB 210 Global Business Literacy IB 310 International Business INST 201 Intro to International Studies PHIL 320 Comparative Religion SOC 303 The Arab World <i>Or any foreign language course</i>	3 ea	<i>Students are encouraged to complete this course at MSSU</i>		3
Total Required credit hours of General Education: 56 – 60				

**MSSU Bachelor of Science Degree
Environmental Health – Distance Learning Track**

Environmental Health Semester Blocks (49 hours) – The EH-DLT requires successful completion of four Environmental Health Semester Blocks that are enrolled in after acceptance to the EH-DLT. Students accepted into the EH-DLT may enroll into any Semester Block that is currently available. Each EH Semester Block is a unit of 4 to 5 individual EH courses that are all enrolled in and taken simultaneously over a single semester via the Internet from MSSU. Semester Block grades are given for each individual course. Students must enroll for the entire block of courses.

Fall Semester, Even Years		
Course	Course Title	Credit Hours
EH 370	Environmental Health	3
EH 377	Food Safety	3
EH 378	Occupational Health and Safety	3
EH 380	Epidemiology	3
		Total Hours: 12
Spring Semester, Even Years		
EH 371	Environmental Toxicology (WI)	3
EH 373	Solid & Hazardous Waste Management	3
EH 375	Disease Vector Control	2
EH 376	Water Quality Management	3
EH 382	Epidemiology Statistics	1
		Total Hours: 12
Fall Semester, Odd Years		
EH 311	Soil Morphology	3
EH 312	Environmental Biology (WI)	4
EH 372	Environmental Regulations	3
EH 374	Air Quality Management	3
		Total Hours: 13
Spring Semester, Even Years		
EH 310	Hazardous Incident Management	3
EH 480	Environmental Epidemiology	3
EH 481	Risk Management (WI)	3
EH 499 [#]	Problems in Environmental Health <i>#The student must plan for EH 499 with the EH faculty at least one semester in advance.</i>	3
		Total Hours: 12

Additional Requirements: These courses are offered at MSSU via the internet and must be taken in addition to the Environmental Health Semester Block courses		
Course	Course Title	Credit Hours
EH 304	Geographic Information Systems (meets the Computer Literacy requirement for graduation)	3
EH 450	Internship in Environmental Health Note: This course may be taken during any semester at MSSU, but requires pre-planning in conjunction with EH Faculty prior to enrollment.	5-6
Area I***	Institutional Requirement for International Studies	3

Total Credits Required from MSSU or other four-year institution	60 - 61
TOTAL CREDITS REQUIRED TO RECEIVE A BACHELOR OF SCIENCE DEGREE^{##}	124
^{##} Elective credits or course prerequisite may be required to reach the 124 total required hours.	

The EH courses may be modified or changed by MSSU to provide updated or more relevant information to the environmental health professional or to meet EHAC accreditation requirements.

General Degree Requirements:

1. Students must meet the residency requirements outlined in the agreement.
2. A minimum of 124 semester hours of college credit applicable to a Baccalaureate Degree are required for graduation.
3. A 2.0 cumulative GPA is required for all credit hours attempted.
4. A 2.0 GPA is required for all courses required for the major, both inside and outside the major department.
5. A 2.0 GPA is required for all courses, required and elective, taken in the major department.
6. Degree requires a minimum of 40 hours at the 300/400 level. Courses taken at Metropolitan Community College which are equivalent to 300/400-level courses at MSSU will not be considered upper-level and will not count towards the 40 minimum required upper-level hours.
7. Students are required to earn at least 60 credit hours from a four-year institution.
8. Transfer students with 30 to 89 hours must complete four writing intensive courses, including ENG 101 and ENG 102, with two upper division courses completed at MSSU, one of which must be in the major. Writing intensive courses are designated with "WI" following the course title. If students complete the degree plan as listed above, the writing intensive requirement will be met.

MSSU Course Descriptions

The following course descriptions are to aid [Transfer Institution] in suggesting equivalent credits for the courses students will complete through [Transfer Institution]. Suggested equivalents may then be provided to MSSU to finalize the Articulation Agreement.

Area A

ENG 0101 (F,S,Su) 3 hrs. cr.

College Composition I (*Writing Intensive*)

An introduction to the principles of college-level writing and critical thinking. Students will write a number of essays for a variety of purposes and audiences. Successful completion of the course permits the student to enroll in English 102. Students demonstrating exceptional ability as indicated by Writing Placement scores may take English 111.

ENG 0102 (F,S,Su) 3 hrs. cr.

College Composition II (*Writing Intensive*)

Continued development of writing skills. Emphasizes writing from sources. Initiation, development and completion of a research paper. Prerequisite: English 101.

Area B

COMM 0100 (F,S,Su) 3 hrs. cr.

Oral Communication

Principles of oral communication, including speaking and listening competencies and skills. Primary emphasis is on presenting various types of speeches and improving listening ability. Research organization, reasoning, language and evaluation skill development are included. Three contact hrs. per week. (Required of all degree candidates.)

Area C

MATH 0130 (F,S,Su) 3 hrs. cr.

College Algebra

Functions and their graphs; polynomial, rational, exponential and logarithmic functions; systems of equations; the binomial theorem. Prerequisites: Two units of high school algebra, one unit of high school geometry and a score of 22 or above on the ACT Mathematics Section or MATH 030 with grade of 'C' or better.

MATH 0140 (F,S) 5 hrs. cr.

Algebra and Trigonometry

Equivalent of MATH 130 and MATH 135. Prerequisites: Two units of high school algebra, one unit of high school geometry and a score of 22 or above on the ACT Mathematics Section or MATH 030 with a grade of 'C' or better. Only two hours credit for students with MATH 135 or MATH 130 credit. No credit for students with credit for MATH 130 and MATH 135.

MATH 0150 (F,S) 5 hrs. cr.

Calculus with Analytic Geometry I

Limits. Differentiation of algebraic and transcendental functions and integration of algebraic functions. Plane analytic geometry. Applications to physical problems. Prerequisites: MATH 140 with a grade of 'C' or better or four units of high school mathematics and a satisfactory score on the Mathematics Placement Test.

Area D

BIO 0101 (F,S,Su) 4 hrs. cr.

General Biology

General treatment of unifying principles of living organisms at the chemical, cellular organismic and population levels of organization including cell structure and function, metabolism, genetics, evolution and ecology. Emphasis will be placed on biological principles as they relate to humans, stressing how humans interact with their environment and possible outcomes of these interactions. Three lectures, one two-hour lab per week. Not for biology majors.

BIO 0105 (F,S) 4 hrs. cr.

General Biology: Environmental Health Emphasis

A general biology course that emphasizes environmental health. The organization, complexity and interdependency of life is revealed through the study of life chemistry, cells organisms, respiration, photosynthesis, genetics, populations, evolution and ecology. Emphasis is placed on protection of the human environment with discussion of environmental issues and environmentally related public health concerns. Three lectures, one two hr. lab per week. Credit is not granted for both BIO 101 and BIO 105. Not for biology majors.

BIO 0110 (F,S) 4 hrs. cr.

Principles of Biology I

First in a two-course introductory sequence for biology majors. The unifying principles of living organisms including scientific method, biological molecules, cell structure, function and metabolism, genetics, evolution and a survey of Prokaryotes, Protists and Fungi. Three lectures, one two-hour lab per week. Prerequisites: BIO 101 or BIO 105 or an ACT composite score of 22 or higher. High school chemistry strongly recommended.

BIO 0121 (F,S,Su) 4 hrs. cr.

Human Anatomy and Physiology I

The first in a two-course sequence in which human anatomy and physiology are studied using a body system approach. Includes the concept of scientific inquiry and the fundamental concepts of cell biology, cell metabolism and genetics. Three lectures and one, two-hour lab per week. Fulfills the General Education Requirements in Area 3, Section A for certain Allied Health, Environmental Health, Kinesiology and Nursing majors. Prerequisite: ACT composite score of 19 or higher or a satisfactory score on the departmental assessment or BIO 070 with a grade of C or better.

BIO 0231 (F,S,Su) 5 hrs. cr.

General & Medical Microbiology

Structure and function of microorganisms. Topics include general principles of microbiology, immunology and identification of microorganisms. Three lectures and two, two-hour labs per week. Prerequisites: BIO 111 (or BIO 121) and CHEM 120 or 151.

CHEM 0151 (F,S,Su) 5 hrs. cr.

General Chemistry I

Introductions to theories of chemistry with emphasis on the relationship of structure to properties of matter, the changes that occur during chemical reactions and the quantitative aspects of these changes. Four lectures, one three-hour laboratory per week. Prerequisite or co-requisite: MATH 140 or higher level math course.

CHEM 0152 (F,S,Su) 5 hrs. cr.

General Chemistry II

Continuation of Chemistry 151. Emphasis on the dynamics and thermodynamics of chemical processes and on the properties and reactions of analogous groups of cations and anions. Four lectures, one three-hour laboratory per week. Prerequisites: CHEM 151 with a minimum grade of 'C' or permission of instructor and MATH 140 or higher level math course.

CHEM 0301 (F,S) 5 hrs. cr.

Organic Chemistry I

Principles of organic chemistry including nomenclature, structure, stereochemistry and reactions will be studied by the functional group approach. A brief introduction to organic reaction mechanisms and spectroscopy will be presented. Four lectures and one three-hour laboratory per week. Prerequisite: CHEM 152 with a grade of 'C' or better.

PHYS 0150 (Demand) 5 hrs. cr.

Environmental Physics

Emphasis on physics-based problems and laws related to the environment and to human health. Topics include forces in nature, energy, laws of thermodynamics, heat transfer and radiation, properties of fluids and fluid flow, mechanical properties of solids, sound, electromagnetic waves and spectra, basic electricity, radioactivity and nuclear physics. Designed for students in environmental health and students in biology needing only one course in physics. Students may not receive credit for both Physics 150 and 151 or Physics 150 and 152. Four hours lecture, one three-hour laboratory per week. Prerequisite: MATH 140.

PHYS 0151 (F,S,Su) 5 hrs. cr.

Elementary College Physics I

Mechanics, rotational dynamics, properties of matter, heat, wave motion and sound. Four hours lecture, one three-hour laboratory per week. Prerequisite: MATH 140.

PHYS 0250 (F,S) 2 hrs. cr.

General Physics I

Introductory study of physics covering vectors, geometric and trigonometric applications in physics, kinematics and dynamics of particles in one and two dimensions and Newton's laws of motion. Course meets for the first five weeks of the semester. Four hours lecture and one three-hour laboratory per week. Prerequisite or co-requisite: MATH 150.

PHYS 0260 (F,S) 3 hrs. cr.

General Physics II

Introductory study of energy, momentum, kinematics and dynamics of rigid bodies, equilibrium, fluids, heat and thermodynamics. The course is sequential to PHYS 250 and begins the sixth week of the semester. Four hours lecture, one three-hour laboratory/recitation session per week. Prerequisite: PHYS 250 or 251 with a grade of 'C' or better. Prerequisite or co-requisite: MATH 150.

Area E

HIST 0110 (F,S) 3 hrs. cr.

United States History 1492-1877

Survey of the United States from the era of discovery through reconstruction. Prerequisite: UE 150 or a score of 17 or higher on the ACT Reading Section.

HIST 0120 (F,S) 3 hrs. cr.

United States History 1877 to Present

Survey of the economic, social and political development of the United States from 1877 to the present. Prerequisite: UE 150 or a score of 17 or higher on the ACT Reading Section.

PSC 0120 (F,S) 3 hrs. cr.

Government: US State & Local

Designed to give students an understanding of their governments, enabling them to keep up with political developments with the goal of becoming informed citizens needed to sustain democracy. Successful completion of this course fulfills the requirements for the state-mandated Missouri Constitution Test.

ANTH 0101 (F) 3 hrs. cr.

General Anthropology

An introduction to the field of anthropology, including its historical origins and the four sub-fields central to the discipline today: sociocultural, linguistic, archeological and physical/biological branches. Applied aspects of each of the four subfields will also be addressed. An emphasis is placed on the holistic nature of the discipline, centering around an evolutionary and comparative approach to our species. The role of culture as the primary human adaptation for survival is emphasized, as well as the origins of the biological traits necessary for the development of culture. This course documents the interrelationship of ecology and subsistence patterns with social structures and institutions across different historic periods and cultures.

ECON 0180 (F,S,Su) 3 hrs. cr.

The American Economic System

A core course on the goals organization and operation of the U.S. economy. Topics include: scarcity and choice; the role of profits, saving, investment and competition; the economic functions of government; limitations of the market system; other types of economic systems; and international trade. Personal finance topics include setting goals, budgeting, savings and investing, credit management and retirement planning. Not for business majors or for those who have taken ECON 201 or 202. Prerequisite: ACT MATH Score of 19 or higher or MATH 030 or above.

ECON 0201 (F,S,Su) 3 hrs. cr.

Principles of Economics (Macro)

A basic course that explains the organization, operation and goals of the U.S. economic system with emphasis on basic principles and concepts; measurement, determination and stabilization of national income; unemployment and inflation; the role of money and monetary policy; fiscal policy; economic growth; international finance; and current economic problems. Prerequisite: MATH 030 or above.

ECON 0202 (F,S,Su) 3 hrs. cr.

Principles of Economics (Micro)

A continuation of economic principles with emphasis on the theory of price determination and income distribution, with particular attention to the nature and application of those bearing on decision making within a household, firm or industry; cost and revenue implications of various product and factor market structures; and international trade and finance. Prerequisite: MATH 030 or above.

GEOG 0101 (S-Odd) 3 hrs. cr.

Introduction to Geography

An introduction to geography, with the goal of increasing geographic literacy and recognizing the importance of geography in everyday life. This course introduces students to the discipline, its basic principles and major concepts, tools, techniques and methodological approaches. It traces the development of modern geography and surveys its physical and human sub-disciplines.

PSY 0100 (F,S) 3 hrs. cr.

General Psychology

Introductory course stressing the importance of the psychological mechanisms underlying all human behavior.

SOC 0110 (F,S) 3 hrs. cr.

Introduction to Sociology

An introductory course focused on the systematic study of society. Emphasis on major concepts of sociology and the scientific point of view in understanding and explaining human behavior and social phenomena.

Area F

ART 0110 (F,S) 3 hrs. cr.

Art Appreciation

A survey designed to increase appreciation of the visual arts through readings, slide lectures, library research and visits to the George A. Spiva Center for the Arts. Development of the cognitive and critical processes as they relate to the visual arts are emphasized.

MUS 0106 (F,S) 3 hrs. cr.

World Music

An ethnomusicological survey of select indigenous musics and their cultures. The musical cultures selected for study are not those found in Eurocentric (Western art) musics. There are no prerequisites.

MUS 0110 (F,S,Su) 3 hrs. cr.

Music Appreciation

A survey of masterpieces of Western musical literature; intended for non-music major.

TH 0110 (F,S,Su) 3 hrs. cr.

Theatre Appreciation

Introduction to theatre as a communicative and fine art emphasizing collaborative efforts of playwright, artistic director, designer, actor and crew. Activities include the interpretation and evaluation of plays through scripts, live and taped performances.

ENG 0150 (F,S) 3 hrs. cr.

Introduction to Literature

An introduction to the major literary genres, including the examination of literary themes and techniques common in fiction, poetry and drama. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0261 (F,S) 3 hrs. cr.

World Literature I

Selected literature from the ancient world through the Renaissance, excluding British and American literature. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0262 (F,S) 3 hrs. cr.

World Literature II

Selected literature from the Renaissance to the present, excluding British and American literature. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0271 (F,S) 3 hrs. cr.

British Literature I

Survey of British literature from its beginnings through the eighteenth century. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0272 (F,S) 3 hrs. cr.

British Literature II

Survey of British literature from the Romantic Movement to the present. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0281 (F,S) 3 hrs. cr.

American Literature I

A survey of American literature from its beginning to the Civil War. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0282 (F,S) 3 hrs. cr.

American Literature II

A survey of American literature from the Civil War to the present. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0305 (F,S) 3 hrs. cr.

The Short Story

An in-depth study of the short story with representative writers from throughout the world. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 and 102 or ENG 111.

PHIL 0201 (F,S-Honors,Su-Even) 3 hrs. cr.

Introduction to Philosophy

Comparative survey of major types of philosophy and of representative problems in philosophy. Option for satisfying Area F General Education requirement.

PHIL 0212 (F-Even) 3 hrs. cr.

Ethics

Exploration of the problems of value and personal moral standards, comparative survey of major ethical systems and evaluation of the chief ethical struggles in contemporary society. Option for satisfying Area F General Education requirement.

Area G

KINE 0103 (F,S,Su) 2 hrs. cr.

Lifetime Wellness

Designed to provide students with the knowledge and self-management skills that will assist them in adopting healthy lifestyles. The course will encompass all areas of wellness: physical, emotional, spiritual, social and intellectual.