

Movement Science Cognate Courses

The Movement Science Major requires that a minimum of eleven credit hours of cognate elective courses be completed outside of Movement Science. In addition, six of the eleven credit hours must be earned outside of School of Kinesiology courses.

The Movement Science department maintains a list of currently approved Movement Science Cognate Elective Courses (see below). Credit hours are listed in parentheses. Courses fulfilling University distribution requirements are indicated by HU, NS, and SS. Students are encouraged to choose cognate courses that may fulfill graduate or professional school requirements.

If a course does not appear on the list, students may petition for approval by completing a Program Petition Form (available online on the Forms and Bulletins page of the Kinesiology website under the Undergraduate dropdown tab at <https://www.kines.umich.edu/student-services/forms-bulletins>). **The petition should be as detailed as possible and the petition statement needs to explain how the proposed cognate relates to Movement Science.** Courses that do not have specific distribution designation may also be petitioned for distribution. Be prepared to submit a syllabus at the time that you submit your petition online.

PLEASE NOTE: This list is subject to change.

Anthropology, Biological

ANTHRBIO 201: Introduction to Biological Anthropology (4) NS

ANTRHBIO 297: Topics in Biological Anthropology (4) NS

ANTHRBIO 364: Nutrition and Evolution (4; 3 in half-term) NS

Anthropology, Cultural

ANTHRCUL 344: Medical Anthropology (4) SS

ANTHRCUL 409: Global Health: Anthropological Perspectives (3)

Athletic Training

AT 115: Prevention and Care of Athletic Injuries (3)

AT 117: Prevention and Care of Athletic Injuries Lab (2)

AT 200: Clinical Experience in Athletic Training A (3)

AT 205: Clinical Experience in Athletic Training B (3)

AT 210: Clinical Evaluation of Upper Extremity Athletic Injuries (3)

AT 212: Clinical Evaluation of Upper Extremity Athletic Injuries Lab (1)

AT 215: Clinical Evaluation of Lower Extremity Athletic Injuries (3)

AT 217: Clinical Evaluation of Lower Extremity Athletic Injuries Lab (1)

AT 326: Fundamentals of Strength and Conditioning (3)

Biological Chemistry

BIOLCHEM 212: Descriptive Biological Chemistry (4) (*Nursing*)

BIOLCHEM 415: Introductory Biochemistry Lecture (3)

BIOLCHEM 451/CHEM 451: Advanced Biochemistry I (4)

Movement Science Cognate Courses

Biology

BIOLOGY 101: Energy, Food and the Environment (4) NS
BIOLOGY 118: AIDS and Other Health Crises (3) NS
BIOLOGY 205: Developmental Biology (3) (*Formerly BIOLOGY 208: Embryology*)
BIOLOGY 207: Microbiology, Combined Lecture & Lab (4) NS
BIOLOGY 225: Principles of Animal Physiology and Neurobiology: Lecture (3) NS
BIOLOGY 226: Animal Physiology Laboratory (2) NS
BIOLOGY 252: Vertebrate Evolution and Diversity, Combined Lecture & Lab (4)
BIOLOGY 305: Genetics Lecture (3) (See MCDB 306 for Genetics Lab)

Biomedical Engineering

BIOMEDE 417: Electrical Biophysics (4)
BIOMEDE 456/MECHENG 456: Tissue Mechanics (3)

Biophysics

BIOPHYS 520 /CHEM 520: Biophysical Chemistry I (3)

Civil and Environmental Engineering

CEE 211: Statics and Dynamics (4) (*Note: Physics 140 is a prerequisite for this course.*)

Chemistry

CHEM 120: First Year Seminar in Chemistry (3) NS
CHEM 125/126: General Chemistry Laboratory I and II (2) NS
CHEM 210: Structure and Reactivity I (4) NS
CHEM 211: Investigations in Chemistry (1) NS
CHEM 215: Structure and Reactivity II (3) NS
CHEM 216: Synthesis and Characterization of Organic Compounds (2) NS
CHEM 230: Physical Chemical Principles and Applications (3) NS (*Lecture only*)
CHEM 260: Chemical Principles (3) NS (*Lecture only*)
CHEM 261: Introduction to Quantum Chemistry (1)
CHEM 302: Inorganic Chemistry: Principles of Structure, Reactivity, and Function (3) NS
CHEM 351: Fundamentals of Biochemistry (4) NS
CHEM 398: Undergraduate Research in Biochemistry (1-4)
CHEM 451/BIOLCHEM 451: Advanced Biochemistry I (4)
CHEM 482: Synthesis and Characterization (2) (*formerly CHEM 312*)
CHEM 467/AOSS 467/EARTH 465/ENSCEN 467/ENVIRON 467: Biogeochemical Cycles (3)
CHEM 520/ BIOPHYS 520: Biophysical Chemistry I (3)

Complex Systems

CMPLXSYS 541/PHYSICS 413: Introduction to Nonlinear Dynamics and the Physics of Complexity (3)

Movement Science Cognate Courses

Electrical Engineering & Computer Science

EECS 280: Programming and Introductory Data Structures (4)
EECS 281: Data Structures and Algorithms (4) (*formerly EECS 380*)
EECS 285: A Programming Language or Computer System (2)
EECS 370: Introduction to Computer Organization (4)
EECS 478: Logic Circuit Synthesis and Optimization (4)

Engineering

ENGR 371/MATH 371: Numerical Methods for Engineers and Scientists (3) (*NS for Kinesiology only*)

History

HISTORY 284: History of Health and Sickness (3-4; 3 in half-term) **SS**
HISTORY 376: Epidemics Plagues and Cultures from the Black Death to the Present (4) **SS**

Industrial & Operations Engineering

IOE 333: Ergonomics (3)
IOE 334: Ergonomics Lab (1)
IOE 474: Simulation (3)

LS&A Honors

HONORS 493: College Honors Seminar – Complexity and Emergence (3) (*Only this section*)

Mathematics

MATH 116: Calculus II (4) (*NS for Kinesiology only*)
MATH 214: Linear Algebra and Differential Equations (4) (*NS for Kinesiology only*)
MATH 215: Calculus III (4) (*NS for Kinesiology only*)
MATH 216: Introduction to Differential Equations (4) (*NS for Kinesiology only*)
MATH 371/ ENGR 371: Numerical Methods for Engineers and Scientists (3) (*NS for Kinesiology only*)

Mechanical Engineering

MECHENG 211: Introduction to Solid Mechanics (4)
MECHENG 240: Introduction to Dynamics and Vibrations (4)
MECHENG 456/BIOMEDE 456: Tissue Mechanics (3)

Medical School

See Biological Chemistry, Microbiology, Physiology

Microbiology

MICRBIOL 302: Medical Microbiology (3)
MICRBIOL 350: Intro Lab - Med Micro (1)
MICRBIOL 405: Medical Microbiology and Infectious Disease (3)

Movement Science Cognate Courses

Molecular, Cellular, and Developmental Biology (MCDB))

MCDB 310: Introductory Biochemistry (4)

MCDB 418: Endocrinology (3)

MCDB 423: Introduction to Research in Cellular and Molecular Neurobiology (3)

MCDB 427: Molecular Biology Lecture (4)

MCDB 428: Cell Biology Lecture (4)

MCDB 429: Laboratory in Cell and Molecular Biology (3)

MCDB 436: Introductory Immunology (3)

Nursing

NURSING 220/ WOMENSTD 220: Perspectives in Women's Health (3) **SS**

Philosophy

PHIL 232: Problems of Philosophy (4; 2 in half-term) **HU**

PHIL 340: Minds and Machines (4; 2 in the half-term) **HU**

PHIL 356: Issues in Bioethics (4; 3 in the half-term) **HU**

PHIL 383: Knowledge and Reality (4; 3 in the half-term) **HU**

Physics

PHYSICS 126: General Physics: Electricity and Light (4) **NS** (*No longer offered, now by transfer credit*)

PHYSICS 127: Physics I Lab (1) **NS** (*No longer offered, now by transfer credit*)

PHYSICS 128: Electricity and Light Lab (1) **NS** (*No longer offered, now by transfer credit*)

PHYSICS 141: Elementary Laboratory I (1) **NS**

PHYSICS 151: Physics for the Life Sciences Laboratory I (1) **NS**

PHYSICS 240: General Physics II (4) **NS**

PHYSICS 241: Elementary Laboratory II (1) **NS**

PHYSICS 250: Fundamental Physics for the Life Sciences II (4) **NS**

PHYSICS 251: Physics for the Life Sciences Laboratory II (1) **NS**

PHYSICS 401: Intermediate Mechanics (3)

PHYSICS 413/CMPLXSYS 541/: Introduction to Nonlinear Dynamics and the Physics of Complexity (3)

Physiology

PHYSIOL 404: Human Physiology-Laboratory (2)

PHYSIOL 502: Human Physiology Lecture (4)

PHYSIOL 541: Mammalian Reproductive Endocrinology Lecture (4)

Public Health

PUBHLTH 200/PUBHLTH 210: Health and Society: Introduction to Public Health (4) **SS**

PUBHLTH 626: Understanding And Improving The US Healthcare System (1)

Movement Science Cognate Courses

Psychology

PSYCH 211: Project Outreach (3)
PSYCH 230: Introduction to Biopsychology (4) **NS**
PSYCH 240: Introduction to Cognitive Psychology (4) **NS**
PSYCH 250: Introduction to Developmental Psychology (4) **SS**
PSYCH 270: Introduction to Psychopathology (4) **SS**
PSYCH 280: Introduction to Social Psychology (4) **SS**
PSYCH 290: Introduction to the Psychology of Personality (4) **SS**
PSYCH 335: Introduction to Animal Behavior (4) **NS**
PSYCH 345: Human Neuropsychology (4) **NS**
PSYCH 351: Advanced Laboratory in Developmental Psychology (3)
PSYCH 355: Cognitive Development (3) **NS**
PSYCH 401: Special Problems in Psychology as a Social Science (1-4)
PSYCH 442: Perception, Science, and Reality (3)

Sport Management

SM 434: Sport Ethics (3)
SM 437: Psychological Aspects of Sport & Exercise (3)

Sociology

SOC 302: Health and Society: An Introduction to Sociology (4) **SS**
SOC 475: Health, Medicine, and Society (3)

University Courses

ALA 106/ALA 109: HSSP – Perspectives on Health Care (2) (*SS for Kinesiology only*)

Women's Studies

WOMENSTD 220/NURSING 220: Perspectives in Women's Health (3) **SS**
WOMENSTD 400: Women's Reproductive Health (3)