

BIOMECHANICS, BACHELOR OF SCIENCE

University General Education Requirements

| Code | Title | Credits |
|--|------------------------------------|---------|
| Fundamental Academic Skills | | |
| ENGL 1150 | ENGLISH COMPOSITION I | 3 |
| ENGL 1160 | ENGLISH COMPOSITION II | 3 |
| MATH 1220 | COLLEGE ALGEBRA | 3 |
| CMST 1110 | PUBLIC SPEAKING FUNDS | 3 |
| or CMST 2120 | ARGUMENTATION AND DEBATE | |
| Writing in the Discipline in the Major (0 credit hours) This requirement is satisfied by writing required in: | | |
| BMCH 4990 | CAPSTONE DESIGN IN BIOMECHANICS II | 4 |
| Distribution Requirements | | |
| Natural & Physical Sciences (minimum 7 credit hours from at least two different disciplines and with at least one laboratory course) | | 7 |
| Humanities and Fine Arts (9 credit hours taken from at least two different disciplines/curriculum designations) | | 9 |
| Social and Behavioral Sciences (9 credit hours taken from at least two different disciplines/curriculum designations) | | 9 |
| Cultural Diversity | | |
| Cultural Diversity coursework may satisfy distribution requirements in Humanities/Fine Arts or in Social/Behavioral Sciences: | | 6 |
| Global (minimum 3 credit hours) | | |
| US (minimum 3 credit hours) | | |

NOTE: 14 hours from the professional core fulfilling the University General Education requirements include: eight hours in natural/physical sciences, three hours in mathematics (MATH 1320 will supersede MATH 1220), and three hours in the social/behavioral sciences (PSYC 1010). The 120 hour degree also assumes that students select coursework in humanities/fine arts area and the social/behavioral sciences area that satisfy requirements for U.S. diversity and global diversity.

Required Professional Core Courses

| Code | Title | Credits |
|-------------------------|--|---------|
| Natural Sciences | | |
| BIOL 1450 | BIOLOGY I ¹ | 5 |
| BIOL 1750 | BIOLOGY II | 5 |
| BMCH 2400 | HUMAN PHYSIOLOGY & ANATOMY I ¹ | 4 |
| BMCH 2500 | HUMAN PHYSIOLOGY AND ANATOMY II ¹ | 4 |
| CHEM 1180 & CHEM 1184 | GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY ¹ | 4 |
| CHEM 1190 & CHEM 1194 | GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY | 4 |
| PHYS 2110 & PHYS 1154 | GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I ¹ | 5 |
| PHYS 2120 & PHYS 1164 | GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II | 5 |
| Mathematics | | |
| MATH 1320 | PRE-CALCULUS ALGEBRA ² | 3 |
| MATH 1330 | TRIGONOMETRY | 3 |

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| MATH 1950 | CALCULUS I | 5 |
| MATH 1960 | CALCULUS II | 4 |
| Statistics Requirement (Choose one of the courses below) | | |
| PSYC 3130 | STATISTICS FOR THE BEHAVIORAL SCIENCES | 3 |

OR

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| STAT 1530 | ELEMENTARY STATISTICS | 3 |
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| STAT 3800 | APPLIED ENGINEERING PROBABILITY AND STATISTICS | 3 |
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OR

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| HEKI 2100 | STATISTICS IN HEALTH AND KINESIOLOGY | 3 |
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Behavioral Science

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| PSYC 1010 | INTRODUCTION TO PSYCHOLOGY I ³ | 3 |
| PSYC 4440 | ABNORMAL PSYCHOLOGY | 3 |

Biomechanics Core

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| BMCH 1000 | INTRODUCTION TO BIOMECHANICS | 3 |
| BMCH 1100 | ETHICS OF SCIENTIFIC RESEARCH | 3 |
| BMCH 2200 | ANALYTICAL METHODS IN BIOMECHANICS | 3 |
| BMCH 3000 | BIOMECHANICAL STATICS & DYNAMICS | 3 |
| BMCH 4630 | BIOMECHANICS | 3 |

Biomechanics Electives

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| BMCH 4000 | BIOMATERIALS | 3 |
| BMCH 4100 | BIOINSPIRED ROBOTICS | 3 |
| BMCH 4640 | ORTHOPEDIC BIOMECHANICS | 3 |
| BMCH 4650 | NEUROMECHANICS OF HUMAN MOVEMENT | 3 |
| BMCH 4660 | CLINICAL IMMERSION FOR RESEARCH AND DESIGN | 3 |
| BMCH 4670 | INTRODUCTION TO MECHANICS OF BIOMATERIALS | 3 |
| BMCH 4680 | SPORTS BIOMECHANICS | 3 |
| BMCH 4690 | CARDIOVASCULAR BIOMECHANICS | 3 |

Practica

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|-----------|------------------------------------|---|
| BMCH 4200 | METHODS IN BIOMECHANICS I | 3 |
| BMCH 4210 | METHODS IN BIOMECHANICS II | 3 |
| BMCH 4980 | CAPSTONE DESIGN IN BIOMECHANICS I | 4 |
| BMCH 4990 | CAPSTONE DESIGN IN BIOMECHANICS II | 4 |

¹ Eight hours of courses marked can be counted in fulfilling university general education requirements in the natural science distribution area.

² Three hours for College Algebra exceeds the MATH 1220 course required in general education.

³ Three hours for Introduction to Psychology can be counted in fulfilling university general education requirements in the social/behavioral science distribution area.

Freshman

| Fall | | Credits |
|---|------------------------------|-----------|
| BIOL 1450 | BIOLOGY I | 5 |
| BMCH 1000 | INTRODUCTION TO BIOMECHANICS | 3 |
| MATH 1220 | COLLEGE ALGEBRA ¹ | 3 |
| Attend Durango Days; other campus events | | |
| Advising appointment for spring: Sept. - Oct. | | |
| BMCH 2400 | HUMAN PHYSIOLOGY & ANATOMY I | 4 |
| Credits | | 15 |

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| Spring | | |
| BMCH 2500 | HUMAN PHYSIOLOGY AND ANATOMY II 1 | 4 |
| PSYC 1010 | INTRODUCTION TO PSYCHOLOGY I | 3 |
| MATH 1340 | ALGEBRA AND TRIGONOMETRY FOR CALCULUS | 5 |
| BIOL 1750 | BIOLOGY II | 5 |
| Advising appointment for fall: February - March | | |
| Join a student organization | | |
| Credits | | 17 |

Sophomore

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|---|---------------------------------------|-----------|
| Fall | | |
| BMCH 2200 | ANALYTICAL METHODS IN BIOMECHANICS | 3 |
| MATH 1950 | CALCULUS I | 5 |
| CHEM 1180 | GENERAL CHEMISTRY I | 3 |
| CHEM 1184 | GENERAL CHEMISTRY I LABORATORY | 1 |
| ENGL 1150 | ENGLISH COMPOSITION I | 3 |
| Advising appointment for spring: Sept. - Oct. | | |
| Credits | | 15 |

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| Spring | | |
| BMCH 1100 | ETHICS OF SCIENTIFIC RESEARCH | 3 |
| PHYS 2110 | GENERAL PHYSICS I - CALCULUS LEVEL | 4 |
| PHYS 1154 | GENERAL PHYSICS LABORATORY I | 1 |
| CHEM 1190 | GENERAL CHEMISTRY II | 3 |
| CHEM 1194 | GENERAL CHEMISTRY II LABORATORY | 1 |
| ENGL 1160 | ENGLISH COMPOSITION II | 3 |
| Advising appointment for fall: February - March | | |
| Credits | | 15 |

Junior

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|---|---|-----------|
| Fall | | |
| BMCH 3000 | BIOMECHANICAL STATICS & DYNAMICS | 3 |
| BMCH 4200 | METHODS IN BIOMECHANICS I | 3 |
| CMST 1110 | PUBLIC SPEAKING FUNDS | 3 |
| PSYC 3130 | STATISTICS FOR THE BEHAVIORAL SCIENCES | 3 |
| MATH 1960 | CALCULUS II | 4 |
| Advising appointment for spring: Sept. - Oct. | | |
| Shadowing/Volunteer experiences | | |
| Credits | | 16 |

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| Spring | | |
| BMCH 4210 | METHODS IN BIOMECHANICS II | 3 |
| BMCH 4630 | BIOMECHANICS | 3 |
| PHYS 2120 | GENERAL PHYSICS-CALCULUS LEVEL | 4 |
| PHYS 1164 | GENERAL PHYSICS LABORATORY II | 1 |
| BMCH 4650 | NEUROMECHANICS OF HUMAN MOVEMENT | 3 |
| Advising appointment for fall: February - March | | |
| Visit Academic & Career Development Center for resume/ cover letter building and editing | | |
| Start thinking about internship | | |
| Credits | | 14 |

Senior

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| Fall | | |
| BMCH 4980 | CAPSTONE DESIGN IN BIOMECHANICS I | 4 |
| PSYC 4440 | ABNORMAL PSYCHOLOGY | 3 |
| Humanities and Fine Arts with Diversity | | 3 |

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| Humanities and Fine Arts | 3 |
| Advising appointment for spring: Sept. - Oct. | |

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| Credits | | 13 |
| Spring | | |
| BMCH 4990 | CAPSTONE DESIGN IN BIOMECHANICS II | 4 |
| BMCH 4100 | BIOINSPIRED ROBOTICS | 3 |
| BMCH 4640 | ORTHOPEDIC BIOMECHANICS | 3 |
| Social Science with Diveristy | | 3 |
| Elective | | 2 |
| Apply for graduation | | |
| Career searching | | |
| Credits | | 15 |
| Total Credits | | 120 |

¹ BIOL2740 and BIOL2840 can be taken in place of BMCH 2400 and 2500

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

Additional Information About this Plan:

University Degree Requirements: The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

Placement Exams: For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**Transfer credit or placement exam scores may change suggested plan of study