PRE-HEALTH PROFESSIONS STUDENTS: GENERAL PREREQUISITE COURSE WORK

Students with an interest in a health profession should meet with staff in the UCR Medical and Health Careers Program early in their undergraduate program to begin regular and on-going advising about their specific health profession interest(s). Students are encouraged to explore different health career options and to confirm their interest in a particular health profession. There is no “best” major for those going into graduate or professional programs in the health professions. Students should major in a field that genuinely interests them.

Regardless of major, students must have a solid foundation in the sciences and must complete pre-requisite courses in preparation for admission tests and applying for admission to graduate or health professions programs. Courses should be academically rigorous and acceptable for students majoring in these areas.

The following courses will meet requirements for most health professions programs. Be sure to check each program and each school you plan to apply to for their additional and/or different requirements.

Note: Most health professions programs will NOT accept grades of C- and below and often require that the pre-requisite courses be taken for a letter grade and not just S/NC (Satisfactory/ Non Satisfactory) or P/F (Pass/Fail).

1 year of Biology with Labs

Either BIOL 005A, BIOL 005B, and BIOL 005C (all with labs) or BIOL 002, BIOL 003, and BIOL 005C (all with labs) will meet this requirement. Note: BIOL 002 & 003 are generally offered for and might generally only be acceptable for students that are non science majors.

BIOL 005A and BIOL 05LA – Introduction to Cell and Molecular Biology
Prereq: CHEM 001A and CHEM 01LA or CHEM 01HA and CHEM 1HLA with grades of C- or better

BIOL 005B – Introduction to Organismal Biology (Lab included)
Prereq: BIOL 005A and BIOL 005LA with grades of C- or better; CHEM 001A or CHEM 01HA; CHEM 01B or CHEM01HB

BIOL 005C – Introductory Evolution and Ecology (Lab included)
Prereq: BIOL 005A and BIOL 005B with grades of C- or better; MATH 009A or equivalent (may be taken concurrently)
OR
BIOL 002 - Cellular Basis of Life
Prereq: none Not recommended for natural science majors. Credit is not awarded for BIOL 002 if it has already been awarded for BIOL 005A or BIOL 005LA

BIOL 003 – Organisms in their Environment
Pre-req: none. Credit is not allowed for both BIOL 003 and BIOL 005B

BIOL 005C – Introductory Evolution and Ecology (Lab included)
Prereq: BIOL 005A and BIOL 005B with grades of C- or better (or BIOL 002 and BIOL 003 for non-Biology majors); MATH 009A or equivalent (may be taken concurrently)

### 1 year of General Chemistry with Labs

**CHEM 001A – General Chemistry**
Prereq: 3, 4, or 5 score on College Board Advanced Placement Chemistry Exam or passing score on California Chemistry Diagnostic Test OR grade of C- or better in MATH 005 or concurrent enrollment in MATH 008B or a grade of C- or better in an equivalent college-level math or chemistry course; concurrent enrollment in CHEM 01LA or a grade of C- or better in CHEM 01LA

**CHEM 01LA – General Chemistry Lab**
Prereq: Concurrent enrollment in CHEM 001A or a grade of “C-” or better in CHEM 001A

**CHEM 001B – General Chemistry**
Prereq: Grades of C- or better in CHEM 001A and CHEM 01LA or grades of C- or better in CHEM 01HA and CHEM 1HLA; concurrent enrollment in CHEM 01LB or a grade of C- or better in CHEM 01LA

**CHEM 01LB – General Chemistry Lab**
Prereq: Grades of “C-“or better in CHEM 001A and CHEM 01LA or grades of “C-“ or better in CHEM 01HA and CHEM 1HL; concurrent enrollment in CHEM 001B or a grade of “C-“ or better in CHEM 001B

**CHEM 001C – General Chemistry**
Prereq: Grades of C- or better in CHEM 001B and CHEM 01LB or grades of C- or better in CHEM 01HB and CHEM 1HLB; concurrent enrollment in CHEM 01LC or a grade of C- or better in CHEM 01LC

**CHEM 01LC – General Chemistry Lab**
Pre-req: Grades of “C-“ or better in CHEM 001B and CHEM 01LB or grades of “C-“ or better in CHEM 01HB and CHEM 1HLB; concurrent enrollment in CHEM 001C or a grade of “C-“ or better in CHEM 001C

### 1 year of Organic Chemistry with Labs

**CHEM 112A – Organic Chemistry (includes Lab)**
Prereq: CHEM 001C and CHEM 01LC with grades of “C-“or better or CHEM 01HC and CHEM 01HLC with grades of “C-“ or better

**CHEM 112B – Organic Chemistry (includes Lab)**
Prereq: CHEM 112A with a grade of “C-“or better

**CHEM 112C – Organic Chemistry (includes Lab)**
Prereq: CHEM 112B with a grade of “C-“ or better

### 1 year of Physics with Lab

**PHYS 002A – General Physics**
Prereq: MATH 008B with a grade of “C-“or better or MATH 009A with a grade of “C-“ or better or MATH 09HA with a grade of “C-“ or better

**PHYS 02LA – General Physics Lab**
Prereq: PHYS 002A (may be taken concurrently)

**PHYS 002B – General Physics**
Prereq: MATH 009B or MATH 09HB (may be taken concurrently) and a grade of “C- or better in PHYS 002A

PHYS 02LB – General Physics Lab
Prereq: PHYS 002A with a grade of “C-“or better; PHYS 02LA, PHYS 002B (may be taken concurrently)

PHYS 002C – General Physics
Prereq: PHYS 002B with a grade of C- or better

PHYS 02LC – General Physics Lab
Prereq: PHYS 002B with a grade of “C-“ or better, PHYS 02LB, PHYS 002C (may be taken concurrently)

ABOUT ADVANCED PLACEMENT (AP) COURSEWORK
Some health professions schools will not accept AP credit to satisfy the required courses. For suggested options, please make an appointment to see the Medical and Health Careers Program staff.

ADDITIONAL SUGGESTED COURSE WORK
It is not necessary to complete these courses if they are not required for your major or required by a specific health professions program. Be sure to check the specific required courses for the health professions schools/programs you will apply to. (You must also meet any prerequisites for the courses listed. Check the current UC Riverside General Catalog.)

Mathematics/Statistics
Although only a few schools require specific course work in mathematics, mathematical competence as a strong foundation for understanding the basic sciences is expected. MATH 008 and MATH 009, while not required by most health professions schools, are prerequisites for PHYS 002A and PHYS 002B.

A working knowledge of statistics is helpful in becoming a critical evaluator of medical/health literature and is required by some health professions programs and recommended by others.

MATH 008A and 008B Introduction to College Mathematics for the Sciences
MATH 009A and 009B First Year Calculus
STAT 100A and 100 B Introduction to Statistics

The mathematics requirement for applicants to the UCR/ UCLA Thomas Haider Program is two (2) quarters of calculus and one (1) quarter of statistics. Most medical schools do not have

English Composition and Literature
In addition to the English requirement ENGL 001A, ENGL 001B, and ENGL 001C, consider additional course work in writing and/or literature. Literature courses can be helpful in developing reading comprehension skills, particularly valuable for admissions tests such as the MCAT, DAT, or PCAT.

AP Credit
For students that have English AP credit, the following are some alternate courses that include significant writing and might be used to meet the one-year English requirement:

ENGL 020A Introduction to British Literary Tradition
ENGL 020B Introduction to American Literary Tradition
ENGL 020C Introduction to Alternative Critical Perspectives on Literature and Culture
ENGL 102 Introduction to Critical Methods
ENGL 103 Advanced Composition
**Biology/Microbiology/Biochemistry**

Some medical and other health professions programs require or recommend one or more of the following courses. Check for course pre-requisites.

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>BCH 100</td>
<td>Elementary Biochemistry</td>
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<tr>
<td>BCH 110A, B, C</td>
<td>General Biochemistry</td>
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<tr>
<td>BCH 120</td>
<td>Topics in Human Biochemistry</td>
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<tr>
<td>BIOL 102</td>
<td>Introductory Genetics</td>
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<tr>
<td>BIOL 107A</td>
<td>Molecular Biology</td>
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<tr>
<td>BIOL 121</td>
<td>Introductory Microbiology</td>
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<tr>
<td>BIOL 121L</td>
<td>Microbiology Lab</td>
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<tr>
<td>BIOL 128</td>
<td>Immunology</td>
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<tr>
<td>BIOL 161A</td>
<td>Functional Anatomy of the Vertebrates</td>
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<tr>
<td>BIOL 161B</td>
<td>Functional Anatomy of the Vertebrates</td>
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<tr>
<td>BIOL 171</td>
<td>Human Anatomy and Physiology</td>
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<tr>
<td>BIOL 171L</td>
<td>Human Anatomy and Physiology Lab</td>
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<tr>
<td>MCBL 141</td>
<td>Public Health Microbiology</td>
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</tbody>
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**Other Courses that may be of interest for Pre-health Students**

**Art**

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<tr>
<th>Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>ART 005</td>
<td>Beginning Sculpture and Three-Dimensional Design (pre-dental)</td>
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**Anthropology**

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>ANTH 020</td>
<td>Culture, Health and Healing</td>
</tr>
<tr>
<td>ANTH 143</td>
<td>Gender, Race and Medicine</td>
</tr>
<tr>
<td>ANTH 155</td>
<td>Human Osteology</td>
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<tr>
<td>ANTH 156</td>
<td>Advanced Osteology</td>
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<tr>
<td>ANTH 158</td>
<td>Biological Approaches to Medical Anthropology</td>
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<tr>
<td>ANTH 160</td>
<td>Political Economy of Health</td>
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<tr>
<td>ANTH 162</td>
<td>Culture and Medicine</td>
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<td>ANTH 166</td>
<td>Cultural Perspectives of Cancer</td>
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**Biology**

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>BIOL 110</td>
<td>Biology of Human Problems</td>
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**Cell Biology and Neuroscience**

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>CBNS 101</td>
<td>Fundamentals of Cell Biology</td>
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<tr>
<td>CBNS 106</td>
<td>Introduction to Neuroscience</td>
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<tr>
<td>CBNS 108</td>
<td>Introduction to Developmental Biology</td>
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<tr>
<td>CBNS 123</td>
<td>Brain Control of Bodily Functions</td>
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<tr>
<td>CBNS 125</td>
<td>Neuropharmacology</td>
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<td>CBNS 128</td>
<td>Immunology</td>
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<td>CBNS 150</td>
<td>Cancer Biology</td>
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**Ethnic Studies**

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<tr>
<th>Code</th>
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<tr>
<td>ETST 116</td>
<td>Medicine Ways of Native Americans</td>
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**History**


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<th>Course Code</th>
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<tr>
<td>HIST 032</td>
<td>Disease and Society</td>
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**Microbiology**
- MCBL 121  | Introductory Microbiology                        |
- MCBL 123  | Introduction to Comparative Virology             |
- MCBL 124  | Pathogenic Microbiology                          |
- MCBL 133  | Environmental Microbiology                       |
- MCBL 141  | Public Health Microbiology                        |
- MCBL 188  | Microbiology Diagnostics                         |

**Philosophy**
- PHIL 007  | Critical Thinking (pre-nursing)                  |
- PHIL 009  | Biomedical Ethics                                |
- PHIL 112  | Mortal Questions                                 |
- PHIL 114  | Science and Human Understanding                  |
- PHIL 161  | Ethics                                           |
- PHIL 167  | Biomedical Ethics                                |
- PHIL 168  | Ethics and Families                              |

**Political Science**
- POSC 180  | Politics of Public Health                        |
- POSC 186  | Regulation: A Political Perspective              |

**Psychology**
- PSYC 160  | Life Span Development (pre-nursing)              |
- PSYC 178  | Health Psychology                                |
- PSYC 179  | Health and Human Behavior                        |

**Religious Studies**
- RLST 015  | Death                                            |

**Theater**
- THEA 050  | Public Speaking                                  |

**Women's Studies/Lesbian, Gay, Bisexual, Intersexual, and Transgender Studies**
- WMST 106  | Feminist Bioethics (cross-listed with PHIL 171)  |
- WMST 189  | Gender, Technology and the Body (cross-listed with LGBS 189) |

UPDATED 6/28/10