

**Tentative RELATED COURSE Offerings – July 2022**  
 (courses highlighted in blue do not require the full completion of LS Cores Requirements)

| Course Number:                                    | Units:  | Course Title:  | Pre-requisites or Co-requisites:  | Important Advising Notes:  | Fall:   | Winter: | Spring: | Summer: |
|---|---------|--|---|--|---|---------|---------|---------|
| ANTH 152  | 4 units | Evolution of the First Hominids                          | ANTH 002 or consent of instructor.  |  | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| ANTH 153  | 4 units | Evolution of the Genus Homo                              | ANTH 002 or consent of instructor.  |  | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| ANTH 155  | 6 units | Human Osteology  | ANTH 002, upper-division standing; or consent of instructor.  | Useful for anthropologists and those intending careers in medicine, physical therapy, and forensics. | X   |         |         |         |
| <b>*BCH 015</b>                                   | 3 units | Introduction to Biochemistry Lab                         | CHEM 008A and CHEM 08LA or CHEM 08HA and CHEM 08HLA with grade of "C-" or better (CHEM 008A and CHEM 08LA or CHEM 08HA and CHEM 08HLA may be taken concurrently); or consent of instructor. |  | X   | X       |         |         |
| <b>BCH 110A</b><br>(if not already applied to UD) | 4 units | General Biochemistry                                     | BIOL 005A with a grade of "C-" or better; CHEM 008C and CHEM 08LC or CHEM 08HC and CHEM 08HLC with grades of "C-" or better.  | Credit is awarded for only one of BCH 110A or BCH 110HA.   | X   | X       |         |         |
| <b>BCH 110C</b>                                   | 4 units | General Biochemistry                                     | BCH 110A or BCH 110HA with a grade of "C-" or better, BIOL 102 or consent of instructor. BCH 110B or BCH 110HB is highly recommended.   | Credit is not awarded for BCH 110C if it has already been awarded for BCH 110HC or BIOL 107A.        |   |         | X       |         |
| <b>BCH 120</b>                                    | 4 units | Topics in Human Biochemistry                             | BCH 100 with a grade of "C+" or better or BCH 110B or BCH 110HB with a grade of "C-" or better or consent of instructor.  | The discussion sections are used for presentations on topical medical problems.                      |   |         | X       |         |
| <b>BCH 162</b>                                    | 5 units | Advanced Biochemistry Laboratory                         | BCH 015; BCH 110B or BCH 110HB; BCH 110C or BCH 110HC all with grades of "C-" or better, or consent of instructor.  |  |   | X       | X       |         |
| <b>BCH/BPSC 183</b>                               | 4 units | Plant Biochemistry and Pharmacology Of Plant Metabolites | BCH 110A or BCH 110HA; BCH 110B or BCH 110HB; or BCH 100; or consent of instructor.   | ++Cross-listed course.   | X   |         |         |         |

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| BCH 184          | 4 units   | Topics in Physical Biochemistry    | BCH 100 with a grade of "C-" or better or BCH 110A or BCH 110HA with a grade of "C-" or better; BIEN 135 with grade of "C-" or better, or CHEM 109 with grade of "C-" or better or CHEM 110A with grade of "C-" or better; or consent of instructor. |  |   | X       |         |         |
| ****BIOL 194     | 1-4 units | Independent Reading                | Consent of instructor.   | Course is repeatable to a maximum of 6 units.                    | X   | X       | X       | X       |
| ****BIOL 197     | 1-2 units | Introduction to Research           | Sophomore, junior or senior standing and consent of instructor and departmental chairperson.   | Graded Satisfactory (S) or No Credit (NC). Course is repeatable. | X   | X       | X       | X       |
| ****BIOL 199     | 1-4 units | Junior/Senior Research             | Junior or senior standing, a minimum GPA of 3.0 and consent of instructor and departmental chairperson.  | Graded Satisfactory (S) or No Credit (NC). Course is repeatable. | X   | X       | X       | X       |
| BPSC 109         | 4 units   | Epigenetics                        | BIOL 102.  |  |   | X       |         |         |
| ***BPSC 133      | 5 units   | Plant Diversity and Evolution      | BIOL 005C; or consent of instructor.   |  | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| ***BPSC/ENSC 134 | 4 units   | Social Conditions and Plant Growth | BIOL 104/BPSC 104 or ENSC 100; or consent of instructor.   | ++Cross-listed course.   | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| BPSC 135         | 4 units   | Plant Cell Biology                 | BIOL 005C; BCH 100 or BCH 110A; or consent of instructor.  |  |   | X       |         |         |
| BPSC 146         | 4 units   | Plant Ecology                      | BIOL 104 or BPSC 104 or BIOL 116; STAT 010; or consent of instructor.  |  | X   |         | X       |         |
| BPSC 149         | 2 units   | Nanobiotechnology                  | BIOL 005C; BIOL 102; CHEM 008C or CHEM 08HC, CHEM 08LC or CHEM 08HLC; PHYS 002C or PHYS 02HC, PHYS 02LC or PHYS 02HLC or PHYS 040C or PHYS 040HC; restricted to class level standing of junior, senior; or consent of instructor.                    |  |   | X       |         |         |
| BPSC 150         | 4 units   | Genes, Selection and Populations   | BIOL 102 with a grade of "C-" or better, upper-division standing; or consent of instructor.  |  |   |         | X       |         |

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| CBNS 116       | 4 units | Human Neuroanatomy: Structure-Function Relationship                 | CBNS 106 with a grade of "C-" or better or consent of instructor.   |   |   |         | X       | X       |
| CBNS/PSYC 120  | 4 units | Membrane and Synaptic Phenomena                                     | CBNS 106 or consent of instructor.  | ++Cross-listed course.  |   | X       |         | X       |
| CBNS/PSYC 120L | 2 units | Neuroscience Laboratory   | CBNS 120/PSYC 120 or concurrent enrollment.   | ++Cross-listed course.  |   | X       | X       | X       |
| CBNS/PSYC 121  | 4 units | Developmental Neuroscience  | CBNS 106 or consent of instructor.  | ++Cross-listed course.  | X   |         |         | X       |
| CBNS/PSYC 124  | 4 units | Systems Neuroscience  | CBNS 106 with a grade of C- or better; or consent of instructor.  | ++Cross-listed course.  | X   |         | X       | X       |
| CBNS/PSYC 125  | 4 units | Neuropharmacology   | CBNS 120/PSYC 120.  | ++Cross-listed course.  |   |         | X       | X       |
| CBNS/PSYC 126  | 4 units | Neuroscience of Learning and Memory                                 | CBNS 106 or PSYC 110 or consent of instructor.  | ++Cross-listed course.  | X   |         |         | X       |
| CBNS/PSYC 127  | 4 units | Behavioral Control Systems  | CBNS 120/PSYC 120; CBNS 124/PSYC 124 strongly recommended.  | ++Cross-listed course.  |   |         | X       |         |
| ***CBNS 133    | 4 units | Scientific Writing for Cell, Molecular and Developmental Biologists | BIOL 102, BIL 107A, CBNS 101, CBNS 108; a major in Cell, Molecular, and Developmental Biology; or consent of instructor.  | Satisfactory (S) or No Credit (NC) grading is not available.                                  | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| *CHEM 5        | 5 units | Quantitative Analysis   | CHEM 001C and CHEM 01LC with grades of "C-" or better or CHEM 01HC and CHEM 1HLC with grades of "C-" or better.   |   |   | X       |         | X       |
| CHEM 109       | 4 units | Survey of Physical Chemistry  | CHEM 001C with a grade of C- or better or CHEM 01HC with a grade of C- or better; CHEM 01LC with a grade of C- or better or CHEM 1HLC with a grade of C- or better; MATH 009B with a grade of C- or better or MATH 09HB with a grade of C- or better or MATH 007B with a grade of C- or better; or consent of instructor. | Primarily for majors in life and agricultural sciences; not recommended for Chemistry majors. | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
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| <b>CHEM 110A</b>      | 4 units       | Physical Chemistry:<br>Chemical<br>Thermodynamics                            | CHEM 001C with a grade of C- or better or CHEM 01HC with a grade of C- or better or CHEM 002C with a grade of C- or better; CHEM 01LC with a grade of C- or better or CHEM 1HLC with a grade of B or better or CHEM 02LC with a grade of C- or better; MATH 010A with a grade of C- or better, may be taken concurrently or MATH 009C with a grade of C- or better or MATH 09HC with a grade of C- or better; PHYS 002C with a grade of C- or better or PHYS 02HC with a grade of C- or better or PHYS 040C with a grade of C- or better or PHYS 040HC with a grade of C- or better; or consent of instructor. |                                  | X            |                |                |                |
| <b>CHEM 110B</b>      | 4 units       | Physical Chemistry:<br>Introduction to Statistical<br>Mechanics and Kinetics | CHEM 110A with a grade of "C-" or better or consent of instructor; prior or concurrent enrollment in MATH 010B is recommended.   |                                  |              | X              |                |                |
| <b>CHEM 111</b>       | 4 units       | Physical Chemistry<br>Laboratory   | CHEM 110A and CHEM 110B with grades of "C-" or better (CHEM 110B may be taken concurrently), or consent of instructor. CHEM 113 recommended.   |                                  |              | X              |                |                |
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| CHEM 113       | 4 units      | Physical Chemistry:<br>Introduction to Quantum<br>Chemistry | CHEM 001C with a grade of C- or better or CHEM 01HC with a grade of C- or better; CHEM 01LC with a grade of C- or better or CHEM 01HLC with a grade of C- or better; MATH 009C with a grade of C- or better or MATH 09HC with a grade of C- or better; MATH 010A with a grade of C- or better, may be taken concurrently; PHYS 002C with a grade of C- or better, may be taken concurrently or PHYS 040C with a grade of C- or better, may be taken concurrently; or consent of instructor. |                           |       |         | X       |         |
| CHEM 125       | 3 or 5 units | Instrumental Methods  | CHEM 005 with a grade of C- or better; ENGL 001B with a grade of C or better; PHYS 002C, may be taken concurrently or PHYS 02HC, may be taken concurrently or PHYS 040C, may be taken concurrently or PHYS 040HC, may be taken concurrently; ENGL 007, may be taken concurrently; for concurrent enrollment in ENGL 007, review the course titles or topics in the current online Schedule of Classes to find the corresponding ENGL 007 writing workshop; or consent of instructor.        |                           | X     |         |         |         |
| CHEM 143       | 3 units      | Chemical Biology  | CHEM 008C and CHEM 08LC or CHEM 08HC and CHEM 08HLC.  |                           |       | X       |         |         |
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| CS 10A**              | 4 units       | Introduction to Computer Science for Science, Mathematics, And Engineering I  | MATH 004, may be taken concurrently or MATH 005A, may be taken concurrently or MATH 006B, may be taken concurrently or MATH 007A, may be taken concurrently or MATH 009A, may be taken concurrently or MATH 09HA, may be taken concurrently. | Credit is not awarded for CS 005 or CS 008 if it has already been awarded for CS 010A.                                    | X   | X              | X              | X              |
| CS 10B**              | 4 units       | Introduction to Computer Science for Science, Mathematics, And Engineering II | CS 010A with a grade of C- or better; familiarity with C or C++ language.  | Credit is awarded for one of the following CS 010B or CS 009B.  | X   | X              | X              | X              |
| CS 10C**              | 4 units       | Introduction to Data Structures and Algorithms                                | CS 010B with a grade of C or better; proficiency in C++.   |   | X   | X              | X              | X              |
| CS 61*                | 4 units       | Machine Organization and Assembly Language Programming                        | CS 010A with a grade of C- or better.  |   | X   | X              | X              | X              |
| ENTM 106              | 3 units       | Insect Evolution  | BIOL 100/ENTM 100 or consent of instructor.  |   |   |                | X              |                |
| ENTM 107              | 4 units       | Insect Biodiversity   | BIOL 100/ENTM 100 or consent of instructor.  |   |   | X              |                |                |
| ***ENTM 108           | 4 units       | Biology of Social Insects   | BIOL 005C with a grade of C- or better.  |   | <b>*Check Schedule of Classes for availability.</b> |                |                |                |
| ENTM 109              | 4 units       | Field Entomology  | BIOL 100/ENTM 100 or equivalents or consent of instructor.   |   |   |                | X              |                |
| ENTM 114              | 4 units       | Aquatic Insects   | BIOL 005A, BIOL 005B, BIOL 005C; or consent of instructor.   | Laboratory emphasizes identification (collection) and includes a group field ecology project and two weekend field trips. | <b>*Check Schedule of Classes for availability.</b> |                |                |                |
| ENTM 126              | 4 units       | Medical and Veterinary Entomology   | BIOL 005B, BIOL 005C; or consent of instructor.  |   |   | X              |                |                |
| ENTM 130              | 4 units       | Invasion Ecology  | BIOL 005C with a grade of C- or better, BIOL 102 with a grade of C- or better; or consent of instructor.   |   |   | X              |                |                |
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| ENTM 133         | 4 units | Urban Entomology  | BIOL 100/ENTM 100 or consent of instructor.  |  |   | X       |         |         |
| ENTM/MCBL 139    | 4 units | The Evolution of Conflict and Cooperation: Cheaters and Altruists | BIOL 005C; or consent of instructor.   | ++Cross-listed course.                                 | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| ENVE 121         | 4 units | Biological Unit Processes   | ENVE 120, ENVE 142.  | Credit is awarded for only one of CEE 226 or ENVE 121. |   | X       |         |         |
| ENSC 100         | 4 units | Introduction to Soil Science                                      | CHEM 001C, CHEM 011C or CHEM 01HC, CHEM 01HLC; ENSC 001, may be taken concurrently or ENSC 002, may be taken concurrently or CEE 010; or consent of instructor.  |  | X   |         |         |         |
| ENSC/NEM 120     | 4 units | Soil Ecology  | BIOL 002 or BIOL 005A, BIOL 05LA; CHEM 001C, CHEM 011C or CHEM 01HC, CHEM 1HLC; ENSC 100; or consent of instructor.  | ++Cross-listed course.                                 | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| ENSC/MCBL 133    | 4 units | Environmental Microbiology  | BIOL 005A, BIOL 05LA or BIOL 020, BIOL 005B, BIOL 005C; or consent of instructor.  | ++Cross-listed course.                                 | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| ***ENSC/BPSC 134 | 4 units | Soil Conditions and Plant Growth                                  | BIOL 104/BPSC 104 or ENSC 100; or consent of instructor.   | ++Cross-listed course.                                 | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| ENTX 101         | 4 units | Fundamental Toxicology  | BIOL 005A; BIOL 005B; CHEM 008A and CHEM 08LA or CHEM 08HA and CHEM 08HLA; CHEM 008B and CHEM 08LB or CHEM 08HB and CHEM 08HLB; CHEM 008C and CHEM 08LC or CHEM 08HC and CHEM 08HLC; or consent of instructor. |  | X   |         |         |         |
| ENTX 154         | 4 units | Risk Assessment   | ENTX 101; STAT 010; or equivalent; or consent of instructor.   |  | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
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| <b>GEO 151</b>        | 4 units       | Principles of Paleontology                      | BIOL 010/GEO 003 with a grade of "C-" or better or BIOL 005C.   | This class includes a lecture, laboratory, and one 1-day field trip.           | X   |                |                |                |
| <b>***GEO 160</b>     | 4 units       | Global Climate Change                           | Upper-division standing or consent of instructor; PHYS 002B or PHYS 02HB or PHYS 040B or PHYS 040HB recommended.  |  | <i>*Check Schedule of Classes for availability.</i> |                |                |                |
| <b>GEO 167</b>        | 4 units       | Conservation Biogeography                       | BIOL 005C with a grade of "C-" or better or BIOL 010/GEO 003 with a grade of "C-" or better.  |  | <i>*Check Schedule of Classes for availability.</i> |                |                |                |
| <b>GEO 169</b>        | 4 units       | California Vegetation                           | BIOL 005C with a grade of "C-" or better or BIOL 010/GEO 003 with a grade of "C-" or better.  | This class includes a lecture, laboratory, and two 1-day field trips.          |   | X              |                |                |
| <b>MATH 9C*</b>       | 4 units       | First-Year Calculus                             | MATH 009B with a grade of C- or better or MATH 09HB with a grade of C- or better or MATH 007B with a grade of C- or better.                                   | Credit is awarded for one of the following MATH 009C, MATH 005C, or MATH 09HC. | X   | X              | X              | X              |
| <b>MATH 10A*</b>      | 4 units       | Calculus of Several Variables                   | MATH 007B or MATH 009B or MATH 09HB with a "C-" or better or equivalent.  |  | X   | X              | X              | X              |
| <b>MATH 10B*</b>      | 4 units       | Calculus of Several Variables                   | MATH 010A with a grade of "C-" or better or equivalent.   |  | X   | X              | X              | X              |
| <b>MATH 46*</b>       | 4 units       | Introduction to Ordinary Differential Equations | MATH 007B with a grade of C- or better or MATH 09HB with a grade of C- or better or MATH 009B with a grade of C- or better.                                   | Credit is awarded for one of the following MATH 046, EE 020A, or MATH 045.     | X   | X              | X              | X              |
| <b>MATH 149A</b>      | 4 units       | Probability and Mathematical Statistics         | MATH 010A with a grade of "C-" or better, MATH 010B with a "C-" or better, concurrent enrollment in or completion of MATH 046 with a grade of "C-" or better. |  | X   |                |                |                |
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| <b>MATH 149B</b>      | 4 units       | Probability and Mathematical Statistics                   | MATH 010A with a grade of "C-" or better, MATH 010B with a grade of "C-" or better, MATH 046 with a grade of "C-" or better, MATH 149A with a grade of "C-" or better.   |  |              | X              |                |                |
| <b>MCBL 125</b>       | 4 units       | Experimental Microbiology                                 | BIOL 102; BIOL 107A; BIOL 121 or MCBL 121; BIOL 121L or MCBL 121L or MCBL 121LS; restricted to class level standing of junior, or senior; or consent of instructor.  |  |              |                | X              |                |
| <b>MCBL 126</b>       | 3 units       | Microbiomes   | BIOL 005A, BIOL 05LA or BIOL 020; BIOL 005B; BIOL 005C; CHEM 008C or CHEM 08HC; CHEM 08LC or CHEM 08HLC; MATH 007B or MATH 009B or MATH 09HB; PHYS 002C or PHYS 02HC; PHYS 02LC or PHYS 02HLC; BCH 100 or BCH 110A or BCH 110HA; STAT 010; or consent of instructor. | Credit is awarded for one of the following MCBL 126 or MCBL 226. |              |                | X              |                |
| <b>MCBL 128</b>       | 4 units       | Field Mycology: Ecology, Evolution and Diversity of Fungi | BIOL 005A, BIOL 05LA, BIOL 005B, BIOL 005C; or consent of instructor.  | Credit is awarded for one of the following MCBL 128 or MCBL 228. |              | X              |                |                |
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| MCBL 129       | 4 units | Host Responses to Viral Pathogens                                 | BIOL 005A; BIOL 05LA or BIOL 020; BIOL 005B; BIOL 005C; CHEM 001C or CHEM 01HC; CHEM 01LC or CHEM 01HLC; CHEM 008C or CHEM 08HC; CHEM 08LC or CHEM 08HLC; MATH 007B or MATH 009B or MATH 09HB; PHYS 002C or PHYS 02HC; PHYS 02LC or PHYS 02HLC; BCH 100, may be taken concurrently or BCH 100H, may be taken concurrently or BCH 110A, may be taken concurrently or BCH 110HA, may be taken concurrently; or consent of instructor. |   |   |         | X       |         |
| MCBL/ENSC 133  | 4 units | Environmental Microbiology  | BIOL 005A, BIOL 05LA or BIOL 020, BIOL 005B, BIOL 005C; or consent of instructor.   | ++Cross-listed course.  |   | X       |         |         |
| MCBL/ENTM 139  | 4 units | The Evolution of Conflict and Cooperation: Cheaters and Altruists | BIOL 005C; or consent of instructor.  | ++Cross-listed course.  | X   |         |         |         |
| NEM/ENSC 120   | 3 units | Soil Ecology  | BIOL 002 or BIOL 005A, BIOL 05LA; CHEM 001C, CHEM 01LC or CHEM 01HC, CHEM 1HLC; ENSC 100; or consent of instructor.   | ++Cross-listed course.  | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| PHYS 117       | 4 units | Advanced Mathematical Methods of Physics                          | MATH 010B with a grade of C- or better, MATH 046 with a grade of C- or better.  | This course is strongly recommended for students with a focus on theoretical physics. | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| PHYS 130A      | 4 units | Classical Mechanics   | MATH 009C, MATH 010A (may be taken concurrently); one of the following: PHYS 002A or PHYS 02HA with a grade of B- or better, PHYS 040A or PHYS 040HA with a grade of C or better, PHYS 041A with a grade of C or better.  |   | X   |         |         |         |
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| PHYS 130B      | 4 units | Classical Mechanics             | MATH 010A, MATH 010B (may be taken concurrently), PHYS 130A.   |                           | X   |         |         |         |
| PHYS 132       | 5 units | Thermodynamics                  | MATH 010B; MATH 046 (may be taken concurrently); PHYS 130B.  |                           |   |         | X       |         |
| PHYS 139L      | 5 units | Electronics for Scientists      | One of the following: PHYS 002B or PHYS 02HB with B- or better, PHYS 040C or PHYS 040HC with a C- or better, PHYS 041B with a C- or better, or consent of instructor.      |                           | X   |         | X       |         |
| PHYS 145A      | 4 units | Biophysics                      | CHEM 001C or CHEM 01HC; MATH 010B; MATH 046; one of the following: PHYS 002C or PHYS 02HC with B- or better, PHYS 041C with a C- or better, PHYS 040E with a C- or better. |                           | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| PHYS 145B      | 4 units | Biophysics                      | PHYS 145A; BCH 100 or BCH 110B or BCH 110HB; or consent of instructor.   |                           | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| ***PHYS 145C   | 4 units | Biophysics                      | PHYS 145B or consent of instructor.  |                           | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| PHYS 163       | 4 units | Atomic Physics and Spectroscopy | CHEM 113 or PHYS 156A with a C- or better, PHYS 135A with a C- or better, or consent of instructor   |                           | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
| ***PHYS 168    | 4 units | Energy and the Environment      | MATH 010B with a grade of C- or better, PHYS 040C with a grade of C- or better or PHYS 041C with a grade of C- or better; or consent of instructor.                        |                           | <i>*Check Schedule of Classes for availability.</i> |         |         |         |
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| PHYS 177              | 4 units       | Computational Methods for Physical Sciences   | CS 009A or CS 010A or CS 010B; PHYS 002C with a grade of B- or better or PHYS 02HC with a grade of B or better or PHYS 040E with a grade of C- or better or PHYS 041C with a grade of C- or better; or consent of instructor. |  |              |                | X              |                |
| PSYC 112              | 4 units       | Neural Mechanisms of Animal Behavior  | CBNS 106 with a grade of "C-" or better or PSYC 110 with a grade of "C-" or better or consent of instructor.  |  | X            | X              |                |                |
| STAT 10**             | 5 units       | Introduction to Statistics  | Prerequisite(s): MATH 005A or MATH 006B or MATH 007A or MATH 009A or MATH 09HA.   | Credit is awarded for one of the following STAT 010 or STAT 008.                 | X            | X              | X              | X              |
| STAT 11++             | 5 units       | Introduction to Statistics (if not being used to fulfill the Upper Division Statistics Requirement) | STAT 008 with a grade of C- or better or STAT 010 with a grade of C- or better.   |  | X            | X              | X              | X              |
| STAT 107++            | 4 units       | Introduction to Statistical Computing   | STAT 010; or equivalent.  |  | X            |                |                | X              |
| STAT 110              | 5 units       | Bio-statistical Methods in Life Sciences  | STAT 011 or STAT 107; or equivalent.  |  | X            |                |                |                |
| STAT 155              | 4 units       | Probability and Statistics for Science and Engineering  | MATH 009C, may be taken concurrently or MATH 09HC, may be taken concurrently.   | Credit is not awarded for STAT 155 if it has already been awarded for STAT 160A. | X            | X              |                | X              |
| STAT 157              | 4 units       | Statistical Computing with Sas  | STAT 010 with a grade of C- or better, CS 010A with a grade of C- or better or STAT 107 with a grade of C- or better; or equivalent.  |  |              | X              |                | X              |
| STAT 160A             | 4 units       | Elements of Probability and Statistical Theory  | MATH 009C or MATH 09HC (may be taken concurrently).   |  | X            |                |                |                |
| STAT 160B             | 4 units       | Elements of Probability and Statistical Theory  | STAT 160A with a grade of "C-" or better.   |  |              | X              |                |                |
| <b>Course Number:</b> | <b>Units:</b> | <b>Course Title:</b>  | <b>Pre-requisites or Co-requisites:</b>   | <b>Important Advising Notes:</b>   | <b>Fall:</b> | <b>Winter:</b> | <b>Spring:</b> | <b>Summer:</b> |

|            |         |  |  |  |   |   |   |  |
|------------|---------|--|--|--|---|---|---|--|
| STAT 160C  | 4 units | Elements of Probability and Statistical Theory | STAT 160B with a grade of "C-" or better.                                    |  |   |   | X |  |
| STAT 161   | 4 units | Introduction to Probability Models             | STAT 160B or equivalent with a grade of "C-" or better.                      |  |   |   | X |  |
| STAT 167   | 4 units | Introduction to Data Science                   | STAT 107 with a grade of C- or better; CS 010A with a grade of C- or better. |  |   |   | X |  |
| STAT 169++ | 4 units | Design of Experiments                          | STAT 107; STAT 156B or STAT 160B; or equivalent.                             |  |   | X |   |  |
| STAT 170++ | 4 units | Regression Analysis                            | STAT 107; STAT 156B or STAT 160B; or equivalent.                             |  | X |   |   |  |
| STAT 171   | 4 units | General Statistical Models                     | STAT 170.  |  |   |   | X |  |

Related Area Courses can only be used for Related Courses Coverage (16 units maximum).

\*\*\*\*For BIOL 194 and BIOL 197 and BIOL 199 there is a 9 unit maximum.

Please see your advisor if you would like to have non-BIOL research applied to the Related Area.

+Courses were formerly CS10, CS12, and CS14 respectively.

++Courses were formerly STAT100B, STAT147, STAT170B, and STAT170A respectively.

\*A lower division transfer course will satisfy the same number of units in the related area as the equivalent UCR course.

++Cross-listed Courses: A cross-listed course is when a course (with the same content) is taught under two or more departments. Cross-listed courses usually have the same course number. Refer to the Schedule of Classes for further details (review the course description).

Refer to the Schedule of Classes for further cross-listed course details (review the course description).

-Schedule subject to change.

-Please refer to the most recent UCR catalog for all up to date curriculum details ([registrar.ucr.edu/registering/catalog](http://registrar.ucr.edu/registering/catalog)).