

**Course Requirements and Registration Priorities**  
**School of Science and Technology (Undergraduate), Spring 2018**

| #                         | Abbr     | Title                              | Cr(US) | Cr(ECTS) | PreRequisite   | CoRequisite | AntiRequisite   | 1st priority registration      | 2nd priority registration | 3rd priority registration | 4th priority registration |
|---------------------------|----------|------------------------------------|--------|----------|--|-------------|---|--------------------------------|---------------------------|---------------------------|---------------------------|
| <b>SST</b>                |          |                                    |        |          |  |             |   |                                |                           |                           |                           |
| <b>Biological Science</b> |          |                                    |        |          |  |             |   |                                |                           |                           |                           |
| 1                         | BIOL 101 | Biology for non-Science majors     | 3      | 6        |  |             |   | SHSS                           |                           |                           |                           |
| 2                         | BIOL 110 | Modern Biology I with Lab          | 4      | 8        |  |             | BIOL 110 Modern Biology I (C- and above)<br>OR BIOL 110 Modern Biology I Lab (C- and above)   | Biological Sciences, Chemistry | SST                       | SHSS                      |                           |
| 3                         | BIOL 120 | Modern Biology II with Lab         | 4      | 8        | BIOL 110 Modern Biology I with Lab (C- and above)  |             | BIOL 120 Modern Biology II (C- and above)<br>OR BIOL 120 Modern Biology II Lab (C- and above) | Biological Sciences, Chemistry | SST                       | SHSS                      |                           |
| 4                         | BIOL 231 | Human Anatomy and Physiology II    | 4      | 8        | BIOL 230 Human Anatomy and Physiology I (C- and above)   |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |
| 5                         | BIOL 301 | Molecular Biology of Cell with Lab | 4      | 8        | (BIOL 110 Modern Biology I with Lab (C- and above) OR PREM 110 Pre-med Biology I with lab (C- and above) OR BIOL 110 Modern Biology I (C- and above) OR BIOL 110 Modern Biology I Lab (C- and above)) AND (BIOL 120 Modern Biology II with Lab (C- and above) OR BIOL 120 Modern Biology II (C- and above) OR BIOL 120 Modern Biology II Lab (C- and above)) |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |
| 6                         | BIOL 341 | Biochemistry I                     | 3      | 6        | CHEM 211 Organic Chemistry I (C- and above) OR CHEM 291 Organic Chemistry for Biologists I (C- and above)  |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |

|                  |           |   |   |   |   |   |  |                                |     |            |  |
|------------------|-----------|---|---|---|---|---|--|--------------------------------|-----|------------|--|
| 7                | BIOL 370  | Genetics  | 3 | 6 | (BIOL 110 Modern Biology I (C- and above) OR BIOL 110 Modern Biology I with Lab (C- and above) OR PREM 110 Pre-med Biology I with lab (C- and above)) AND (BIOL 120 Modern Biology II (C- and above) OR BIOL 120 Modern Biology II with Lab (C- and above)) AND (BIOL 220 Molecular Biology of Cell (C- and above) OR BIOL 301 Molecular Biology of Cell with Lab (C- and above)) |   |  | Biological Sciences            | SST | SEng, SHSS |  |
| 8                | BIOL 420  | Bioethics   | 3 | 6 | (BIOL 110 Modern Biology I (C- and above) OR BIOL 110 Modern Biology I Lab (C- and above) OR BIOL 110 Modern Biology I with Lab (C- and above)) AND (BIOL 120 Modern Biology II (C- and above) OR BIOL 120 Modern Biology II Lab (C- and above) OR BIOL 120 Modern Biology II with Lab (C- and above))  |   |  | Biological Sciences            | SST | SEng, SHSS |  |
| 9                | BIOL 430  | Histology with laboratory                               | 4 | 8 | BIOL 230 Human Anatomy and Physiology I (C- and above) AND BIOL 231 Human Anatomy and Physiology II (C- and above)  |   |  | Biological Sciences            | SST | SEng, SHSS |  |
| 10               | BIOL 440  | Neuroscience  | 3 | 6 | BIOL 231 Human Anatomy and Physiology II (C- and above)   |   |  | Biological Sciences            | SST | SEng, SHSS |  |
| 11               | BIOL 456  | Biology Research Design                                 | 3 | 6 | BIOL 355 Critical Research Reasoning (C- and above)   |   |  | Biological Sciences            | SST | SEng, SHSS |  |
| 12               | BIOL 491  | Graduation Project 2                                    | 4 | 8 | BIOL 490 Graduation Project 1 (C- and above)  |   |  | Through Add form only          |     |            |  |
| 13               | BIOL 492  | Directed study in Biology                               | 3 | 6 |   |   |  |                                |     |            |  |
| <b>Chemistry</b> |           |   |   |   |   |   |  |                                |     |            |  |
| 14               | CHEM 092  | Survey of Environmental Sciences for Non-Science Majors | 3 | 6 |   |   |  | SHSS                           |     |            |  |
| 15               | CHEM 101  | General Chemistry I                                     | 3 | 6 |   |   |  | Biological Sciences, Chemistry | SST | SHSS       |  |
| 16               | CHEM 102  | General Chemistry II                                    | 3 | 6 | CHEM 101 General Chemistry I (C and above)  |   |  | Biological Sciences, Chemistry | SST | SHSS       |  |
| 17               | CHEM 102L | General Chemistry II lab                                | 1 | 2 | CHEM 101L General Chemistry I lab (C and above)   | CHEM 102 General Chemistry II (C and above) |  | Biological Sciences, Chemistry | SST | SHSS       |  |

|    |           |   |   |   |   |   |  |  |                     |     |  |
|----|-----------|---|---|---|---|---|--|--|---------------------|-----|--|
| 18 | CHEM 211  | Organic Chemistry I                             | 3 | 6 | CHEM 102 General Chemistry II (C and above)   |   |  | 2 year UG SST<br>Biological Sciences,<br>Chemistry | Biological Sciences | SST |  |
| 19 | CHEM 211L | Organic Chemistry I Lab                         | 2 | 4 | CHEM 102L General Chemistry II lab (C and above)  | CHEM 211 Organic Chemistry I (C and above)  |  | 2 year UG SST<br>Biological Sciences,<br>Chemistry | Biological Sciences | SST |  |
| 20 | CHEM 212  | Organic Chemistry II                            | 3 | 6 | CHEM 211 Organic Chemistry I (C and above) OR CHEM 191 Chemistry I for Engineers (C and above)  |   |  | Chemistry  | Biological Sciences | SST |  |
| 21 | CHEM 212L | Organic Chemistry II Lab                        | 2 | 4 | CHEM 211L Organic Chemistry I Lab (C and above)   | CHEM 212 Organic Chemistry II (C and above) OR CHEM 292 Organic Chemistry for Biologists II (C and above) |  | Chemistry  | Biological Sciences | SST |  |
| 22 | CHEM 320  | Instrumental Analysis with Labs                 | 4 | 8 | CHEM 220 Quantitative Chemical Analysis with lab (C and above)  |   |  | Chemistry  | Biological Sciences | SST |  |
| 23 | CHEM 331  | Physical Chemistry I                            | 3 | 6 | CHEM 220 Quantitative Chemical Analysis with lab (C and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (C and above) |   |  |  |                     |     |  |
| 24 | CHEM 332  | Physical Chemistry II                           | 3 | 6 | CHEM 331 Physical Chemistry I (C and above) AND MATH 274 Introduction to Differential Equations (C- and above)                                    |   |  | Chemistry  | Biological Sciences | SST |  |
| 25 | CHEM 332L | Physical Chemistry II Lab                       | 1 | 2 | CHEM 331L Physical Chemistry Lab (C and above)  | CHEM 332 Physical Chemistry II (C and above)  |  | Chemistry  | Biological Sciences | SST |  |
| 26 | CHEM 380  | Research Methods                                | 3 | 6 |   |   |  | Chemistry  | Biological Sciences | SST |  |
| 27 | CHEM 442  | Biochemistry II with Lab-Metabolic Biochemistry | 3 | 6 | CHEM 341 Biochemistry I (C and above) AND CHEM 212 Organic Chemistry II (C and above)   |   |  | Chemistry  | Biological Sciences | SST |  |
| 28 | CHEM 451  | Applied Homogenous Catalysis                    | 3 | 6 | CHEM 450 Advanced Inorganic Chemistry (C and above)   |   |  | Chemistry  | Biological Sciences | SST |  |
| 29 | CHEM 490  | Nanochemistry                                   | 3 | 6 | CHEM 331 Physical Chemistry I (C and above) AND CHEM 350 Descriptive Inorganic Chemistry (C and above)  |   |  | Chemistry  | Biological Sciences | SST |  |
| 30 | CHEM 491  | Special Topics in Chemistry                     | 3 | 6 |   |   |  | Chemistry  | Biological Sciences | SST |  |

**Computer Science**

|                    |          |  |   |   |  |  |   |                                   |                  |                 |  |
|--------------------|----------|--|---|---|--|--|---|-----------------------------------|------------------|-----------------|--|
| 31                 | CSCI 151 | Programming for Scientists and Engineers | 4 | 8 |  |  | ROBT 102 Programming for robotics and physics (C- and above) OR CSCI 150 Fundamentals of Programming (C- and above) | 1 year UG SST                     | SST              | SHSS            |  |
| 32                 | CSCI 152 | Performance and Data Structures          | 4 | 8 | CSCI 151 Programming for Scientists and Engineers (C- and above) OR CSCI 150 Fundamentals of Programming (C- and above) OR CSCI 261 Object Oriented Programming with Java I (C- and above) OR ROBT 102 Programming for robotics and physics (C- and above) |  |   | 1 year UG SST                     | SST              | SHSS            |  |
| 33                 | CSCI 235 | Programming Languages                    | 4 | 8 | CSCI 152 Performance and Data Structures (C and above)   |  |   | 3 year UG SST<br>Computer Science | Computer Science | SEng, SHSS, SST |  |
| 34                 | CSCI 245 | System Analysis and Design               | 3 | 6 | CSCI 341 Database Systems (C- and above)   |  |   | Computer Science                  | SST              | SEng, SHSS      |  |
| 35                 | CSCI 330 | Mobile Computing                         | 3 | 6 | CSCI 332 Operating Systems (C- and above)  |  |   | Computer Science                  | SST              | SEng, SHSS      |  |
| 36                 | CSCI 332 | Operating Systems                        | 3 | 6 | CSCI 231 Computer Systems and Organization (C- and above)  |  |   | 2 year UG SST<br>Computer Science | Computer Science | SEng, SHSS, SST |  |
| 37                 | CSCI 333 | Computer Networks                        | 3 | 6 | CSCI 152 Performance and Data Structures (C- and above)  |  |   | 2 year UG SST<br>Computer Science | Computer Science | SEng, SHSS, SST |  |
| 38                 | CSCI 336 | Ubiquity and Sensing                     | 3 | 6 | CSCI 333 Computer Networks (C- and above)  |  |   | Computer Science                  | SST              | SEng, SHSS      |  |
| 39                 | CSCI 361 | Software Engineering                     | 3 | 6 | CSCI 152 Performance and Data Structures (C- and above)  |  |   | 3 year UG SST<br>Computer Science | Computer Science | SEng, SHSS, SST |  |
| 40                 | CSCI 398 | Directed Study                           | 3 | 6 |  |  |   | Through Add form only             |                  |                 |  |
| 41                 | CSCI 399 | Internship II                            | 3 | 6 |  |  |   | Through Add form only             |                  |                 |  |
| 42                 | CSCI 408 | Senior Project I                         | 3 | 6 |  |  |   | 4 year UG SST<br>Computer Science |                  |                 |  |
| 43                 | CSCI 409 | Senior Project II                        | 3 | 6 | CSCI 408 Senior Project I (C- and above)   |  |   | Through Add form only             |                  |                 |  |
| 44                 | CSCI 462 | Open Source Software                     | 3 | 6 | CSCI 361 Software Engineering (C- and above)   |  |   | Computer Science                  | SST              | SEng, SHSS      |  |
| <b>Mathematics</b> |          |  |   |   |  |  |   |                                   |                  |                 |  |
| 45                 | MATH 161 | Calculus I                               | 4 | 8 |  |  |   | Biological Sciences, Chemistry    | SST              | SHSS            |  |
| 46                 | MATH 162 | Calculus II                              | 4 | 8 | MATH 161 Calculus I (C and above)  |  |   | 1 year UG SST                     | SST              | SHSS            |  |

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|----|----------|--|---|---|--|------------------------------------|---|---------------------------------------|-----|------|--|
| 47 | MATH 251 | Discrete Mathematics                   | 3 | 6 | MATH 162 Calculus II (C and above)   |                                    |   | Computer Science, Mathematics         | SST | SHSS |  |
| 48 | MATH 263 | Calculus III                           | 4 | 8 | MATH 162 Calculus II (C and above)   |                                    |   | 2 year UG SST Undeclared, Mathematics | SST | SHSS |  |
| 49 | MATH 273 | Linear Algebra with Applications       | 4 | 8 | MATH 161 Calculus I (C and above)  | MATH 162 Calculus II (C and above) |   | Mathematics                           | SST | SHSS |  |
| 50 | MATH 274 | Introduction to Differential Equations | 3 | 6 | MATH 162 Calculus II (C and above) AND MATH 273 Linear Algebra with Applications (C and above)   |                                    |   | 2 year UG SST Undeclared, Mathematics | SST | SHSS |  |
| 51 | MATH 310 | Applied Statistical Methods            | 3 | 6 | MATH 161 Calculus I (C- and above)   |                                    | SOC 203 Quantitative Methods in Sociology (C- and above) OR PLS 211 Quantitative Methods (C- and above) | Mathematics                           | SST | SHSS |  |
| 52 | MATH 321 | Probability                            | 3 | 6 | MATH 162 Calculus II (C and above)   |                                    | ECON 211 Economic Statistics (C- and above) OR PLS 211 Quantitative Methods (C- and above)              | Mathematics                           | SST | SHSS |  |
| 53 | MATH 322 | Mathematical Statistics                | 3 | 6 | MATH 321 Probability (C- and above)  |                                    |   | Mathematics                           | SST | SHSS |  |
| 54 | MATH 351 | Numerical Methods with Applications    | 3 | 6 | MATH 274 Introduction to Differential Equations (C- and above) AND MATH 263 Calculus III (C- and above)  |                                    |   | Mathematics                           | SST | SHSS |  |
| 55 | MATH 361 | Real Analysis I                        | 3 | 6 | MATH 263 Calculus III (C- and above)   |                                    |   | Mathematics                           | SST | SHSS |  |
| 56 | MATH 407 | Graph Theory                           | 3 | 6 | MATH 301 Introduction to Number Theory (C- and above) OR (MATH 251 Discrete Mathematics (C- and above) AND MATH 273 Linear Algebra with Applications (C- and above)) |                                    |   | Mathematics                           | SST | SHSS |  |
| 57 | MATH 412 | Nonlinear Optimization                 | 3 | 6 | MATH 273 Linear Algebra with Applications (C- and above) AND (MATH 263 Calculus III (C- and above) OR MATH 169 Accelerated Calculus (C- and above))                  |                                    |   | Mathematics                           | SST | SHSS |  |

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|----------------|----------|---|---|---|---|---|---|-----------------------|-----|------------|--|
| 58             | MATH 417 | Cryptography  | 3 | 6 | MATH 273 Linear Algebra with Applications (C- and above) AND (MATH 251 Discrete Mathematics (C- and above) OR MATH 301 Introduction to Number Theory (C- and above) OR MATH 355 Introduction to Proofs (C- and above))                              |   |   | Mathematics           | SST | SHSS       |  |
| 59             | MATH 423 | Actuarial Mathematics II                                | 3 | 6 | MATH 321 Probability (C- and above)   |   |   | Mathematics           | SST | SHSS       |  |
| 60             | MATH 460 | Topology  | 3 | 6 | MATH 361 Real Analysis I (C- and above)   |   |   | Mathematics           | SST | SHSS       |  |
| 61             | MATH 461 | Real Analysis II  | 3 | 6 | MATH 361 Real Analysis I (C- and above)   |   |   | Mathematics           | SST | SHSS       |  |
| 62             | MATH 477 | Applied Finite Element Methods                          | 3 | 6 | MATH 351 Numerical Methods with Applications (C and above)  |   |   | Mathematics           | SST | SHSS       |  |
| 63             | MATH 480 | Complex Analysis  | 3 | 6 | MATH 263 Calculus III (C- and above)  |   |   | Mathematics           | SST | SHSS       |  |
| 64             | MATH 482 | Fourier Analysis  | 3 | 6 | MATH 263 Calculus III (C- and above) AND MATH 274 Introduction to Differential Equations (C- and above)   |   |   | Mathematics           | SST | SHSS       |  |
| 65             | MATH 490 | Special Topics in Mathematics                           | 3 | 6 |   |   |   | Mathematics           | SST | SHSS       |  |
| 66             | MATH 499 | Capstone Project  | 3 | 6 |   |   |   | Through Add form only |     |            |  |
| <b>Physics</b> |          |   |   |   |   |   |   |                       |     |            |  |
| 67             | PHYS 161 | Physics I for Scientists and Engineers with Laboratory  | 4 | 8 |   | MATH 161 Calculus I (D and above) OR MATH 162 Calculus II (D and above) | PHYS 171 Physics I for Physics Majors with Laboratory (C- and above)  | SST                   |     | SEng, SHSS |  |
| 68             | PHYS 162 | Physics II for Scientists and Engineers with Laboratory | 4 | 8 | PHYS 161 Physics I for Scientists and Engineers with Laboratory (C- and above) OR PHYS 151 Introductory Physics I with Lab (C- and above)   |   | PHYS 172 Physics II for Physics Majors with Laboratory (C- and above) | SST                   |     | SEng, SHSS |  |
| 69             | PHYS 202 | Introductory Astrophysics                               | 3 | 6 | (PHYS 162 Physics II for Scientists and Engineers with Laboratory (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (C- and above)) AND (MATH 161 Calculus I (C- and above) OR MATH 169 Accelerated Calculus (C- and above)) |   |   | SST                   |     | SEng, SHSS |  |
| 70             | PHYS 222 | Classical Mechanics II                                  | 3 | 6 | PHYS 221 Classical Mechanics I (C- and above)   |   |   | Physics               | SST |            |  |

|                                  |          |  |   |   |   |   |  |                                    |     |      |  |
|----------------------------------|----------|--|---|---|---|---|--|------------------------------------|-----|------|--|
| 71                               | PHYS 270 | Computational Physics with Laboratory          | 3 | 6 | (CSCI 150 Fundamentals of Programming (C- and above) OR CSCI 151 Programming for Scientists and Engineers (C- and above)) AND MATH 263 Calculus III (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (C- and above)) | MATH 273 Linear Algebra with Applications (D and above) |  | Physics                            | SST |      |  |
| 72                               | PHYS 280 | Thermodynamics and Statistical Physics         | 3 | 6 | MATH 263 Calculus III (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (C- and above))   |   |  | Physics                            | SST |      |  |
| 73                               | PHYS 362 | Classical Electrodynamics II                   | 3 | 6 | PHYS 361 Classical Electrodynamics I (C- and above)   |   |  | Physics                            | SST |      |  |
| 74                               | PHYS 370 | Optics with Laboratory                         | 4 | 8 | PHYS 361 Classical Electrodynamics I (C- and above)   |   |  | Physics                            | SST |      |  |
| 75                               | PHYS 395 | Research Methods                               | 3 | 6 | PHYS 261 Modern Physics with laboratory (C- and above) OR PHYS 270 Computational Physics with Laboratory (C- and above)   |   |  | Physics                            | SST |      |  |
| 76                               | PHYS 451 | Quantum Mechanics I                            | 3 | 6 | (PHYS 315 Mathematical Methods of Physics (C- and above) OR PHYS 411 Advanced Mathematical Physics (C- and above)) AND PHYS 221 Classical Mechanics I (C- and above) AND PHYS 361 Classical Electrodynamics I (C- and above)  |   |  | Physics                            | SST |      |  |
| 77                               | PHYS 483 | Statistical Mechanics                          | 3 | 6 |   |   |  | Physics                            | SST |      |  |
| 78                               | PHYS 491 | Directed Study of Advanced Physics Topics      | 3 | 6 |   |   |  | Through Add form only              |     |      |  |
| 79                               | PHYS 499 | Graduation Project                             | 3 | 6 | PHYS 451 Quantum Mechanics I (C- and above)   |   |  | Through Add form only              |     |      |  |
| <b>Robotics and Mechatronics</b> |          |  |   |   |   |   |  |                                    |     |      |  |
| 80                               | ROBT 202 | System Dynamics and Modeling                   | 3 | 6 | MATH 162 Calculus II (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (C- and above))  |   |  | Robotics and Mechatronics          | SST | SHSS |  |
| 81                               | ROBT 204 | Electrical and Electronic Circuits II with Lab | 4 | 8 | ROBT 203 Electrical and Electronic Circuits I with Lab (C- and above)   |   |  | Physics, Robotics and Mechatronics | SST | SHSS |  |

|    |          |  |   |   |   |  |   |     |      |  |
|----|----------|--|---|---|---|--|---|-----|------|--|
| 82 | ROBT 206 | Microcontrollers with Lab                      | 4 | 8 | CSCI 151 Programming for Scientists and Engineers (C- and above) OR ROBT 102 Programming for robotics and physics (C- and above) OR CSCI 150 Fundamentals of Programming (C- and above)                 |  | Computer Science, Robotics and Mechatronics | SST | SHSS |  |
| 83 | ROBT 302 | Mechanical Design II with Machining Laboratory | 4 | 8 | ROBT 301 Mechanical Design I with CAD Laboratory (C- and above)   |  | Robotics and Mechatronics                   | SST | SHSS |  |
| 84 | ROBT 304 | Electromechanical Systems with lab             | 4 | 8 | ROBT 204 Electrical and Electronic Circuits II with Lab (C- and above)  |  | Robotics and Mechatronics                   | SST | SHSS |  |
| 85 | ROBT 308 | Industrial Automation                          | 3 | 6 |   |  | Computer Science, Robotics and Mechatronics | SST | SHSS |  |
| 86 | ROBT 310 | Image Processing                               | 3 | 6 | MATH 162 Calculus II (C- and above) AND MATH 273 Linear Algebra with Applications (C- and above)  |  | Computer Science, Robotics and Mechatronics | SST | SHSS |  |
| 87 | ROBT 402 | Robotic/Mechatronic System Design              | 3 | 6 | ROBT 204 Electrical and Electronic Circuits II with Lab (C- and above) AND ROBT 206 Microcontrollers with Lab (C- and above) AND ROBT 302 Mechanical Design II with Machining Laboratory (C- and above) |  | Robotics and Mechatronics                   |     |      |  |
| 88 | ROBT 414 | Human-Robot Interaction                        | 3 | 6 | CSCI 152 Performance and Data Structures (C- and above)   |  | Computer Science, Robotics and Mechatronics | SST | SHSS |  |
| 89 | ROBT 491 | Graduation Project                             | 3 | 6 |   |  | Robotics and Mechatronics                   |     |      |  |