

**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>Mathematics</b>        |          |                                    |        |          |   |             |   |                                |                           |                           |                           |
| 1                         | MATH 417 | Cryptography                       | 3      | 6        | MATH 273 Linear Algebra with Applications (84) (C and above) AND (MATH 251 Discrete Mathematics (85) (C and above) OR MATH 301 Introduction to Number Theory (613) (C and above) OR MATH 355 Introduction to Proofs (86) (C and above)) |             |   | Mathematics                    | SST                       | SHSS                      |                           |
| <b>SSH</b>                |          |                                    |        |          |   |             |   |                                |                           |                           |                           |
| <b>Biological Science</b> |          |                                    |        |          |   |             |   |                                |                           |                           |                           |
| 2                         | BIOL 101 | Biology for non-Science majors     | 3      | 6        |   |             | BIOL 110 Modern Biology I (1070) (C- and above) | SHSS                           |                           |                           |                           |
| 3                         | BIOL 110 | Modern Biology I                   | 3      | 6        |   |             |   | Biological Sciences, Chemistry | SST                       | SHSS                      |                           |
| 4                         | BIOL 120 | Modern Biology II                  | 3      | 6        | BIOL 110 Modern Biology I (1070) (C and above)  |             |   | Biological Sciences, Chemistry | SST                       | SHSS                      |                           |
| 5                         | BIOL 231 | Human Anatomy and Physiology II    | 4      | 8        | BIOL 230 Human Anatomy and Physiology I (72) (C and above)  |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |
| 6                         | BIOL 301 | Molecular Biology of Cell with Lab | 4      | 8        | BIOL 120 Modern Biology II (177) (C and above) OR BIOL 120 Modern Biology II (177) (C and above) OR BIOL 120 Modern Biology II Lab (1445) (C and above) OR BIOL 120L Modern Biology II Laboratory (5443) (C and above)                  |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |
| 7                         | BIOL 341 | Biochemistry I                     | 3      | 6        | CHEM 211 Organic Chemistry I (154) (C and above)  |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |
| 8                         | BIOL 370 | Genetics                           | 3      | 6        | BIOL 120 Modern Biology II (1195) (C and above)   |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |
| 9                         | BIOL 420 | Bioethics                          | 3      | 6        | BIOL 120 Modern Biology II (1195) (C and above)   |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |
| 10                        | BIOL 430 | Histology with Laboratory          | 4      | 8        | BIOL 230 Human Anatomy and Physiology I (72) (C and above)  |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |
| 11                        | BIOL 440 | Neuroscience                       | 3      | 6        | BIOL 230 Human Anatomy and Physiology I (72) (C and above)  |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |
| 12                        | BIOL 456 | Biology Research Design            | 3      | 6        | BIOL 355 Critical Research Reasoning (1000) (C and above)   |             |   | Biological Sciences            | SST                       | SEng, SHSS                |                           |

|                  |           |   |   |   |  |  |  |  |                     |      |  |
|------------------|-----------|---|---|---|--|--|--|--|---------------------|------|--|
| 13               | BIOL 491  | Graduation Project 2                                    | 4 | 8 | BIOL 490 Graduation Project 1 (1581) (C- and above)  |  |  | Through Add form only                        |                     |      |  |
| 14               | BIOL 492  | Directed Study in Biology                               | 3 | 6 |  |  |  |  |                     |      |  |
| <b>Chemistry</b> |           |   |   |   |  |  |  |  |                     |      |  |
| 15               | CHEM 092  | Survey of Environmental Sciences for Non-Science Majors | 3 | 6 |  |  |  | SHSS   |                     |      |  |
| 16               | CHEM 101  | General Chemistry I                                     | 3 | 6 |  |  |  | Biological Sciences, Chemistry               | SST                 | SHSS |  |
| 17               | CHEM 102  | General Chemistry II                                    | 3 | 6 | CHEM 101 General Chemistry I (113) (C and above)   |  |  | Biological Sciences, Chemistry               | SST                 | SHSS |  |
| 18               | CHEM 102L | General Chemistry II lab                                | 1 | 2 | CHEM 101L General Chemistry I lab (179) (C and above)  | CHEM 102 General Chemistry II (232) (C and above)  |  | Biological Sciences, Chemistry               | SST                 | SHSS |  |
| 19               | CHEM 211  | Organic Chemistry I                                     | 3 | 6 | CHEM 102 General Chemistry II (232) (C and above)  |  |  | 2 year UG SST Biological Sciences, Chemistry | Biological Sciences | SST  |  |
| 20               | CHEM 211L | Organic Chemistry I Lab                                 | 1 | 2 | CHEM 101L General Chemistry I lab (179) (C and above)  | CHEM 211 Organic Chemistry I (154) (C and above)   |  | 2 year UG SST Biological Sciences, Chemistry | Biological Sciences | SST  |  |
| 21               | CHEM 212  | Organic Chemistry II                                    | 3 | 6 | CHEM 211 Organic Chemistry I (154) (C and above) OR CHEM 191 Chemistry I for Engineers (1908) (C and above)  |  |  | Chemistry                                    | Biological Sciences | SST  |  |
| 22               | CHEM 212L | Organic Chemistry II Lab                                | 1 | 2 | CHEM 211L Organic Chemistry I Lab (156) (C and above)  | CHEM 212 Organic Chemistry II (443) (C and above) OR CHEM 292 Organic Chemistry for Biologists II (1901) (C and above) |  | Chemistry                                    | Biological Sciences | SST  |  |
| 23               | CHEM 320  | Instrumental Analysis                                   | 3 | 6 | CHEM 220 Quantitative Chemical Analysis (555) (C and above)  |  |  | Chemistry                                    | Biological Sciences | SST  |  |
| 24               | CHEM 331  | Physical Chemistry I                                    | 3 | 6 | CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C and above) |  |  |  |                     |      |  |

|                    |           |   |   |   |   |   |   |                                       |                     |      |  |
|--------------------|-----------|---|---|---|---|---|---|---------------------------------------|---------------------|------|--|
| 25                 | CHEM 332  | Physical Chemistry II                           | 3 | 6 | CHEM 331 Physical Chemistry I (634) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above) |   |   | Chemistry                             | Biological Sciences | SST  |  |
| 26                 | CHEM 332L | Physical Chemistry II Lab                       | 1 | 2 | CHEM 331L Physical Chemistry Lab (1060) (C and above)   | CHEM 332 Physical Chemistry II (1056) (C and above) |   | Chemistry                             | Biological Sciences | SST  |  |
| 27                 | CHEM 380  | Research Methods                                | 3 | 6 |   |   |   | Chemistry                             | Biological Sciences | SST  |  |
| 28                 | CHEM 442  | Biochemistry II with Lab-Metabolic Biochemistry | 3 | 6 | CHEM 341 Biochemistry I (1058) (C and above) AND CHEM 212 Organic Chemistry II (443) (C and above)                        |   |   | Chemistry                             | Biological Sciences | SST  |  |
| 29                 | CHEM 451  | Applied Homogenous Catalysis                    | 3 | 6 | CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)  |   |   | Chemistry                             | Biological Sciences | SST  |  |
| 30                 | CHEM 490  | Nanochemistry                                   | 3 | 6 | CHEM 331 Physical Chemistry I (634) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)        |   |   | Chemistry                             | Biological Sciences | SST  |  |
| 31                 | CHEM 491  | Special Topics in Chemistry                     | 3 | 6 |   |   |   | Chemistry                             | Biological Sciences | SST  |  |
| <b>Mathematics</b> |           |   |   |   |   |   |   |                                       |                     |      |  |
| 32                 | MATH 161  | Calculus I                                      | 4 | 8 |   |   |   | Biological Sciences, Chemistry        | SST                 | SHSS |  |
| 33                 | MATH 162  | Calculus II                                     | 4 | 8 | MATH 161 Calculus I (118) (C and above)   |   |   | 1 year UG SST                         | SST                 | SHSS |  |
| 34                 | MATH 251  | Discrete Mathematics                            | 3 | 6 | MATH 162 Calculus II (170) (C and above)  |   |   | Computer Science, Mathematics         | SST                 | SHSS |  |
| 35                 | MATH 263  | Calculus III                                    | 4 | 8 | MATH 162 Calculus II (170) (C and above)  |   |   | 2 year UG SST Undeclared, Mathematics | SST                 | SHSS |  |
| 36                 | MATH 273  | Linear Algebra with Applications                | 4 | 8 | MATH 161 Calculus I (118) (C and above)   | MATH 162 Calculus II (170) (C and above)            |   | Mathematics                           | SST                 | SHSS |  |
| 37                 | MATH 274  | Introduction to Differential Equations          | 3 | 6 | MATH 162 Calculus II (170) (C and above)  |   |   | 2 year UG SST Undeclared, Mathematics | SST                 | SHSS |  |
| 38                 | MATH 310  | Applied Statistical Methods                     | 3 | 6 | MATH 161 Calculus I (118) (C and above)   |   | MATH 322 Mathematical Statistics (1165) (D and above) | Mathematics                           | SST                 | SHSS |  |

|    |          |                                     |   |   |   |   |                       |     |      |  |
|----|----------|-------------------------------------|---|---|---|---|-----------------------|-----|------|--|
| 39 | MATH 321 | Probability                         | 3 | 6 | MATH 162 Calculus II (170) (C and above)  | ECON 211 Economic Statistics (2280) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above) | Mathematics           | SST | SHSS |  |
| 40 | MATH 322 | Mathematical Statistics             | 3 | 6 | MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)   |   | Mathematics           | SST | SHSS |  |
| 41 | MATH 351 | Numerical Methods with Applications | 3 | 6 | MATH 274 Introduction to Differential Equations (484) (C and above) AND MATH 263 Calculus III (81) (C and above)  | ENG 202 Numerical Methods in Engineering (5506) (C and above)   | Mathematics           | SST | SHSS |  |
| 42 | MATH 361 | Real Analysis I                     | 3 | 6 | MATH 263 Calculus III (81) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)   |   | Mathematics           | SST | SHSS |  |
| 43 | MATH 407 | Graph Theory                        | 3 | 6 | MATH 301 Introduction to Number Theory (613) (C and above) OR (MATH 251 Discrete Mathematics (85) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)) |   | Mathematics           | SST | SHSS |  |
| 44 | MATH 412 | Nonlinear Optimization              | 3 | 6 | MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 263 Calculus III (81) (C and above)   |   | Mathematics           | SST | SHSS |  |
| 45 | MATH 423 | Actuarial Mathematics II            | 3 | 6 | MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)   |   | Mathematics           | SST | SHSS |  |
| 46 | MATH 460 | Topology                            | 3 | 6 | MATH 361 Real Analysis I (483) (C and above)  |   | Mathematics           | SST | SHSS |  |
| 47 | MATH 461 | Real Analysis II                    | 3 | 6 | MATH 361 Real Analysis I (483) (C and above)  |   | Mathematics           | SST | SHSS |  |
| 48 | MATH 477 | Applied Finite Element Methods      | 3 | 6 | MATH 351 Numerical Methods with Applications (1166) (C and above)   |   | Mathematics           | SST | SHSS |  |
| 49 | MATH 480 | Complex Analysis                    | 3 | 6 | MATH 263 Calculus III (81) (C and above)  |   | Mathematics           | SST | SHSS |  |
| 50 | MATH 482 | Fourier Analysis                    | 3 | 6 | MATH 263 Calculus III (81) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)  |   | Mathematics           | SST | SHSS |  |
| 51 | MATH 490 | Special Topics in Mathematics I     | 3 | 6 |   |   | Mathematics           | SST | SHSS |  |
| 52 | MATH 499 | Capstone Project                    | 3 | 6 |   |   | Through Add form only |     |      |  |

**Physics**

|    |          |   |   |   |  |   |  |         |            |  |  |
|----|----------|---|---|---|--|---|--|---------|------------|--|--|
| 53 | PHYS 161 | Physics I for Scientists and Engineers with Laboratory  | 4 | 8 |  | MATH 161 Calculus I (118) (C and above)                             | PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above)  | SST     | SEng, SHSS |  |  |
| 54 | PHYS 162 | Physics II for Scientists and Engineers with Laboratory | 4 | 8 | PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 151 Introductory Physics I with Lab (649) (C- and above)  |   | PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) | SST     | SEng, SHSS |  |  |
| 55 | PHYS 202 | Introductory Astrophysics                               | 3 | 6 | PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)  |   |  | SST     | SEng, SHSS |  |  |
| 56 | PHYS 222 | Classical Mechanics II                                  | 3 | 6 | PHYS 221 Classical Mechanics I (652) (C- and above)  | MATH 274 Introduction to Differential Equations (484) (D and above) |  | Physics | SST        |  |  |
| 57 | PHYS 270 | Computational Physics with Laboratory                   | 3 | 6 | (CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above)) AND MATH 263 Calculus III (81) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)) | MATH 273 Linear Algebra with Applications (84) (D and above)        |  | Physics | SST        |  |  |
| 58 | PHYS 280 | Thermodynamics and Statistical Physics                  | 3 | 6 | MATH 263 Calculus III (81) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))  |   |  | Physics | SST        |  |  |
| 59 | PHYS 362 | Classical Electrodynamics II                            | 3 | 6 | PHYS 361 Classical Electrodynamics I (651) (C- and above)  |   |  | Physics | SST        |  |  |
| 60 | PHYS 370 | Optics with Laboratory                                  | 4 | 8 | PHYS 361 Classical Electrodynamics I (651) (C- and above)  |   |  | Physics | SST        |  |  |
| 61 | PHYS 395 | Research Methods  | 3 | 6 |  |   |  | Physics | SST        |  |  |
| 62 | PHYS 451 | Quantum Mechanics I                                     | 3 | 6 | PHYS 221 Classical Mechanics I (652) (C- and above) AND PHYS 361 Classical Electrodynamics I (651) (C- and above)  |   |  | Physics | SST        |  |  |
| 63 | PHYS 483 | Statistical Mechanics                                   | 3 | 6 | PHYS 280 Thermodynamics and Statistical Physics (1179) (C- and above)  |   |  | Physics | SST        |  |  |

|                         |          |   |   |   |   |  |  |                                   |                  |                 |
|-------------------------|----------|---|---|---|---|--|--|-----------------------------------|------------------|-----------------|
| 64                      | PHYS 491 | Directed Study of Advanced Physics Topics | 3 | 6 |   |  |  | Through Add form only             |                  |                 |
| 65                      | PHYS 499 | Honors Thesis                             | 3 | 6 |   |  |  | Through Add form only             |                  |                 |
| <b>SEDS</b>             |          |   |   |   |   |  |  |                                   |                  |                 |
| <b>Computer Science</b> |          |   |   |   |   |  |  |                                   |                  |                 |
| 66                      | CSCI 151 | Programming for Scientists and Engineers  | 4 | 8 |   |  | ROBT 102 Programming for robotics and physics (188) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above) | 1 year UG SST                     | SST              | SHSS            |
| 67                      | CSCI 152 | Performance and Data Structures           | 4 | 8 | CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 261 Object Oriented Programming with Java I (171) (C- and above) OR ROBT 102 Programming for robotics and physics (188) (C- and above) |  |  | 1 year UG SST                     | SST              | SHSS            |
| 68                      | CSCI 235 | Programming Languages                     | 4 | 8 | CSCI 152 Performance and Data Structures (489) (C and above)  |  |  | 3 year UG SST<br>Computer Science | Computer Science | SEng, SHSS, SST |
| 69                      | CSCI 245 | System Analysis and Design                | 3 | 6 | CSCI 341 Database Systems (195) (C- and above)  |  |  | Computer Science                  | SST              | SEng, SHSS      |
| 70                      | CSCI 330 | Mobile Computing                          | 3 | 6 | CSCI 332 Operating Systems (490) (C- and above)   |  |  | Computer Science                  | SST              | SEng, SHSS      |
| 71                      | CSCI 332 | Operating Systems                         | 3 | 6 | CSCI 231 Computer Systems and Organization (194) (C- and above)   |  |  | 2 year UG SST<br>Computer Science | Computer Science | SEng, SHSS, SST |
| 72                      | CSCI 333 | Computer Networks                         | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |  |  | 2 year UG SST<br>Computer Science | Computer Science | SEng, SHSS, SST |
| 73                      | CSCI 336 | Ubiquity and Sensing                      | 3 | 6 | CSCI 333 Computer Networks (1145) (C- and above)  |  |  | Computer Science                  | SST              | SEng, SHSS      |
| 74                      | CSCI 361 | Software Engineering                      | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |  |  | 3 year UG SST<br>Computer Science | Computer Science | SEng, SHSS, SST |
| 75                      | CSCI 398 | Directed Study                            | 3 | 6 |   |  |  | Through Add form only             |                  |                 |
| 76                      | CSCI 399 | Internship II                             | 3 | 6 |   |  |  | Through Add form only             |                  |                 |
| 77                      | CSCI 408 | Senior Project I                          | 3 | 6 |   |  |  | 4 year UG SST<br>Computer Science |                  |                 |
| 78                      | CSCI 409 | Senior Project II                         | 3 | 6 | CSCI 408 Senior Project I (1481) (C- and above)   |  |  | Through Add form only             |                  |                 |

|                                  |          |  |   |   |  |  |  |   |     |            |  |
|----------------------------------|----------|--|---|---|--|--|--|---|-----|------------|--|
| 79                               | CSCI 462 | Open Source Software                           | 3 | 6 | CSCI 361 Software Engineering (640) (C- and above)   |  |  | Computer Science                            | SST | SEng, SHSS |  |
| <b>Robotics and Mechatronics</b> |          |  |   |   |  |  |  |   |     |            |  |
| 80                               | ROBT 202 | System Dynamics and Modeling                   | 3 | 6 | MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (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 (62) (C- and above)   |  |  | Physics, Robotics and Mechatronics          | SST | SHSS       |  |
| 82                               | ROBT 206 | Microcontrollers with Lab                      | 4 | 8 | CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ROBT 102 Programming for robotics and physics (188) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (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 with CAD and Machining Laboratory (622) (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 (491) (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 (170) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (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 (491) (C- and above) AND ROBT 206 Microcontrollers with Lab (476) (C- and above) AND ROBT 302 Mechanical Design II with Machining Laboratory (1170) (C- and above) |  |  | Robotics and Mechatronics                   |     |            |  |
| 88                               | ROBT 414 | Human-Robot Interaction                        | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)  |  |  | Computer Science, Robotics and Mechatronics | SST | SHSS       |  |
| 89                               | ROBT 491 | Graduation Project                             | 3 | 6 |  |  |  | Robotics and Mechatronics                   |     |            |  |