

**Course Requirements and Registration Priorities  
School of Science and Technology (Undergraduate), Fall 2016**

| #                         | 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 355 | Introduction to Proofs                  | 3      | 6        | MATH 162 Calculus II (170) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)  |             |   | Mathematics               | SHSS, SST                 |                           |                           |
| <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) |                           |                           |                           |                           |
| 3                         | BIOL 110 | Modern Biology I                        | 3      | 6        |  |             |   | 1 year UG SST             | SST                       | SHSS                      |                           |
| 4                         | BIOL 230 | Human Anatomy and Physiology I          | 4      | 8        | BIOL 110 Modern Biology I (107) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above)  |             |   | Biological Sciences       | SST                       | SHSS                      |                           |
| 5                         | BIOL 305 | Introduction to Microbiology with Lab   | 4      | 8        | BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above)   |             |   | Biological Sciences       | SST                       | SHSS                      |                           |
| 6                         | BIOL 320 | Developmental Biology with Lab          | 4      | 8        | ((BIOL 110 Modern Biology I (107) (C- and above) AND BIOL 110 Modern Biology I Lab (1444) (C- and above)) OR PREM 110 Pre-med Biology I with lab (1071) (C- and above) OR BIOL 110 Modern Biology I (1070) (C- and above)) AND (BIOL 120 Modern Biology II (1195) (C- and above) OR (BIOL 120 Modern Biology II (177) (C- and above) AND BIOL 120 Modern Biology II Lab (1445) (C- and above))) AND ((BIOL 220 Molecular Biology of Cell (477) (C- and above) AND BIOL 220Arc Molecular Biology of Cell Lab (478) (C- and above)) OR BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above) OR BIOL 231 Human Anatomy and Physiology II (479) (C- and above)) |             |   | Biological Sciences       | SST                       | SHSS                      |                           |
| 7                         | BIOL 340 | Introduction to Bioinformatics with Lab | 4      | 8        | BIOL 120 Modern Biology II (1195) (C and above) AND MATH 310 Applied Statistical Methods (82) (C and above)  |             |   | Biological Sciences       | SST                       | SHSS                      |                           |

|                  |           |                                  |   |   |   |   |  |                       |     |      |  |
|------------------|-----------|----------------------------------|---|---|---|---|--|-----------------------|-----|------|--|
| 8                | BIOL 352  | Biology of Cancer                | 3 | 6 | BIOL 231 Human Anatomy and Physiology II (479) (C and above) OR BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above)                                    |   |  | Biological Sciences   | SST | SHSS |  |
| 9                | BIOL 355  | Critical Research Reasoning      | 3 | 6 | BIOL 120 Modern Biology II (177) (C and above) OR BIOL 120 Modern Biology II (177) (C and above)  |   |  | Biological Sciences   | SST | SHSS |  |
| 10               | BIOL 399  | Biology Internship               | 3 | 6 |   |   |  | Through Add form only |     |      |  |
| 11               | BIOL 410  | Immunology                       | 3 | 6 | BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR BIOL 305 Introduction to Microbiology with Lab (1642) (C and above)                             |   |  | Biological Sciences   | SST | SHSS |  |
| 12               | BIOL 455  | Biotechnology                    | 3 | 6 | BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above)   |   |  | Biological Sciences   | SST | SHSS |  |
| 13               | BIOL 470  | Advanced Cell Biology            | 3 | 6 | BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) AND (BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above)) |   |  | Biological Sciences   | SST | SHSS |  |
| 14               | BIOL 490  | Graduation Project 1             | 4 | 8 |   |   |  | Through Add form only |     |      |  |
| <b>Chemistry</b> |           |                                  |   |   |   |   |  |                       |     |      |  |
| 15               | CHEM 090  | Chemistry for Non-Science majors | 3 | 6 |   |   |  |                       |     |      |  |
| 16               | CHEM 091  | Survey of Physical Science       | 3 | 6 |   |   |  |                       |     |      |  |
| 17               | CHEM 101  | General Chemistry I              | 3 | 6 |   |   |  | 1 year UG SST         | SST | SHSS |  |
| 18               | CHEM 101L | General Chemistry I lab          | 1 | 2 |   | CHEM 101 General Chemistry I (113) (C and above)  |  | 1 year UG SST         | SST | SHSS |  |
| 19               | CHEM 102  | General Chemistry II             | 3 | 6 | CHEM 101 General Chemistry I (113) (C and above)  |   |  | Chemistry             | SST | SHSS |  |
| 20               | 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) |  | Chemistry             | SST | SHSS |  |
| 21               | CHEM 189c | Independent Study                | 3 | 6 |   |   |  |                       |     |      |  |
| 22               | CHEM 211  | Organic Chemistry I              | 3 | 6 | CHEM 102 General Chemistry II (232) (C and above)   |   |  | Chemistry             | SST | SHSS |  |

|    |           |                                 |   |   |   |  |  |           |     |      |  |
|----|-----------|---------------------------------|---|---|---|--|--|-----------|-----|------|--|
| 23 | 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)   |  | Chemistry | SST | SHSS |  |
| 24 | 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 | SST | SHSS |  |
| 25 | 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 | SST | SHSS |  |
| 26 | CHEM 220  | Quantitative Chemical Analysis  | 3 | 6 | CHEM 102 General Chemistry II (232) (C and above)   |  |  | Chemistry | SST | SHSS |  |
| 27 | CHEM 250  | Descriptive Inorganic Chemistry | 3 | 6 | CHEM 102 General Chemistry II (232) (C and above)   |  |  | Chemistry | SST | SHSS |  |
| 28 | 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)  |  |  | Chemistry | SST | SHSS |  |
| 29 | CHEM 331L | Physical Chemistry Lab          | 1 | 2 | CHEM 101L General Chemistry I lab (179) (C and above)   | CHEM 331 Physical Chemistry I (634) (C and above)  |  | Chemistry | SST | SHSS |  |
| 30 | CHEM 350  | Advanced Inorganic Chemistry    | 3 | 6 | CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)   |  |  | Chemistry | SST | SHSS |  |
| 31 | CHEM 410  | Structural Spectroscopy         | 4 | 8 | CHEM 212 Organic Chemistry II (443) (C and above)   |  |  | Chemistry | SST | SHSS |  |
| 32 | CHEM 431  | Computational Chemistry         | 3 | 6 | CHEM 332 Physical Chemistry II (1056) (C and above) AND (CSCI 111 Web Programming & Problem Solving (110) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above)) |  |  | SST       |     |      |  |

|                    |          |  |   |   |  |  |  |   |   |                   |      |
|--------------------|----------|--|---|---|--|--|--|---|---|-------------------|------|
| 33                 | 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   | SST   | SHSS              |      |
| <b>Mathematics</b> |          |  |   |   |  |  |  |   |   |                   |      |
| 34                 | MATH 109 | Mathematical Discovery                 | 3 | 6 |  |  |  | MATH 161 Calculus I (118) (C- and above)              | SHSS  | SST               |      |
| 35                 | MATH 161 | Calculus I                             | 4 | 8 |  |  |  |   | 1 year UG SST   | SST               | SHSS |
| 36                 | MATH 162 | Calculus II                            | 4 | 8 | MATH 161 Calculus I (118) (C and above)  |  |  |   | 3 year UG SHSS, 4 year UG SHSS, SST   | SHSS              |      |
| 37                 | MATH 251 | Discrete Mathematics                   | 3 | 6 | MATH 162 Calculus II (170) (C and above)   |  |  |   | Computer Science, Physics, Robotics and Mechatronics, Undeclared  | Mathematics, SHSS |      |
| 38                 | MATH 263 | Calculus III                           | 4 | 8 | MATH 162 Calculus II (170) (C and above)   |  |  |   | 4 year UG SHSS, SST   | SHSS              |      |
| 39                 | MATH 273 | Linear Algebra with Applications       | 4 | 8 | MATH 161 Calculus I (118) (C and above)  | MATH 162 Calculus II (170) (C and above) |  |   | 4 year UG SHSS, SST   | SHSS              |      |
| 40                 | MATH 274 | Introduction to Differential Equations | 3 | 6 | MATH 162 Calculus II (170) (C and above)   |  |  |   | 4 year UG SHSS, SST   | SHSS              |      |
| 41                 | MATH 301 | Introduction to Number Theory          | 3 | 6 | MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)  |  |  |   | Mathematics   | SHSS, SST         |      |
| 42                 | MATH 302 | Abstract Algebra I                     | 3 | 6 | MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)  |  |  |   | Mathematics   | SHSS, SST         |      |
| 43                 | MATH 310 | Applied Statistical Methods            | 3 | 6 | MATH 161 Calculus I (118) (C and above)  |  |  | MATH 322 Mathematical Statistics (1165) (D and above) | 2 year UG SST Biological Sciences, 2 year UG SST Computer Science, 3 year UG SST Biological Sciences, 3 year UG SST Computer Science, 4 year UG SST Biological Sciences, 4 year UG SST Computer Science | Mathematics, SHSS |      |

|    |          |                                     |   |   |  |   |  |   |           |      |  |
|----|----------|-------------------------------------|---|---|--|---|--|---|-----------|------|--|
| 44 | 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)            | 4 year UG SHSS, Computer Science, Mathematics | SHSS, SST |      |  |
| 45 | 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                                   | SHSS, SST |      |  |
| 46 | 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                                   | SHSS, SST |      |  |
| 47 | MATH 399 | Internship                          | 3 | 6 |  |   |  |   |           |      |  |
| 48 | MATH 411 | Linear Programming                  | 3 | 6 | MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 263 Calculus III (81) (C and above)                            |   |  | Mathematics                                   | SHSS, SST |      |  |
| 49 | MATH 425 | Stochastic Processes                | 3 | 6 | MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)  |   |  | Mathematics                                   | SHSS, SST |      |  |
| 50 | MATH 440 | Regression Analysis                 | 3 | 6 | MATH 322 Mathematical Statistics (1165) (C and above)  |   | SOC 203 Quantitative Methods in Sociology (1377) (C and above) OR PLS 211 Quantitative Methods (221) (C and above) | Mathematics                                   | SHSS, SST |      |  |
| 51 | MATH 449 | Statistical Programming             | 3 | 6 | MATH 322 Mathematical Statistics (1165) (C and above)  |   |  | Mathematics                                   | SHSS, SST |      |  |
| 52 | MATH 471 | Nonlinear Differential Equations    | 3 | 6 | MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above) |   |  | Mathematics                                   | SHSS, SST |      |  |
| 53 | MATH 480 | Complex Analysis                    | 3 | 6 | MATH 263 Calculus III (81) (C and above)   |   |  | Mathematics                                   | SHSS, SST |      |  |
| 54 | MATH 481 | Partial Differential Equations      | 3 | 6 | MATH 274 Introduction to Differential Equations (484) (C and above)  | MATH 480 Complex Analysis (618) (C and above) |  | Mathematics                                   | SST       | SHSS |  |

**Physics**

|    |          |  |   |   |  |  |  |                       |           |      |  |
|----|----------|--|---|---|--|--|--|-----------------------|-----------|------|--|
| 55 | PHYS 161 | Physics I for Scientists and Engineers with Laboratory | 4 | 8 |  | MATH 161<br>Calculus I (118)<br>(C and above)  | PHYS 171<br>Physics I for<br>Physics Majors<br>with Laboratory<br>(1401) (C- and<br>above) | 1 year UG SST         | SST       | SHSS |  |
| 56 | PHYS 201 | Introductory Astronomy I                               | 3 | 6 |  |  |  | Physics               | SHSS, SST |      |  |
| 57 | PHYS 221 | Classical Mechanics I                                  | 3 | 6 | (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)) AND MATH 273 Linear Algebra with Applications (84) (C- and above)  |  |  | Physics               | SHSS, SST |      |  |
| 58 | PHYS 261 | Modern Physics with laboratory                         | 4 | 8 | MATH 162 Calculus II (170) (C- and above) AND (PHYS 152 Introductory Physics II with Lab (1176) (C- and above) OR 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               | SHSS, SST |      |  |
| 59 | PHYS 361 | Classical Electrodynamics I                            | 3 | 6 |  | PHYS 315<br>Mathematical<br>Methods of<br>Physics (653)<br>(D and above)<br>OR PHYS 411<br>Advanced<br>Mathematical<br>Physics (3142)<br>(D and above) |  | Physics               | SHSS, SST |      |  |
| 60 | PHYS 411 | Advanced Mathematical Physics                          | 3 | 6 | MATH 274 Introduction to Differential Equations (484) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)   |  |  | Physics               | SST       | SHSS |  |
| 61 | PHYS 452 | Quantum Mechanics II                                   | 3 | 6 | PHYS 451 Quantum Mechanics I (1415) (C- and above)   |  |  | Physics               | SHSS, SST |      |  |
| 62 | PHYS 465 | Advanced Experimental Physics                          | 3 | 6 | PHYS 370 Optics with Laboratory (1405) (C- and above)  |  |  | Physics               | SHSS, SST |      |  |
| 63 | PHYS 473 | Introduction to Solid State Physics                    | 3 | 6 | PHYS 280 Thermodynamics and Statistical Physics (1179) (C- and above) AND PHYS 451 Quantum Mechanics I (1415) (C- and above)   |  |  | Physics               | SHSS, SST |      |  |
| 64 | PHYS 491 | Directed Study of Advanced Physics Topics              | 3 | 6 |  |  |  | Through Add form only |           |      |  |

**SEDS**

**Computer Science**

|                                  |          |  |   |   |   |   |  |                           |     |      |  |
|----------------------------------|----------|--|---|---|---|---|--|---------------------------|-----|------|--|
| 65                               | 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 |  |
| 66                               | CSCI 231 | Computer Systems and Organization                    | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |   |  | Computer Science          | SST | SHSS |  |
| 67                               | CSCI 262 | Software Project Management                          | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C and above)  |   |  | Computer Science          | SST | SHSS |  |
| 68                               | CSCI 281 | Human-Computer Interaction                           | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |   |  | Computer Science          | SST | SHSS |  |
| 69                               | CSCI 325 | Introduction to Parallel Systems and GPU Programming | 3 | 6 | CSCI 332 Operating Systems (490) (C- and above)   |   |  | Computer Science          | SST | SHSS |  |
| 70                               | CSCI 330 | Mobile Computing                                     | 3 | 6 | CSCI 332 Operating Systems (490) (C- and above)   |   |  | Computer Science          | SST | SHSS |  |
| 71                               | CSCI 341 | Database Systems                                     | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |   |  | Computer Science          | SST | SHSS |  |
| 72                               | CSCI 361 | Software Engineering                                 | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |   |  | Computer Science          | SST | SHSS |  |
| 73                               | CSCI 390 | Artificial Intelligence                              | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |   |  | Computer Science          | SST | SHSS |  |
| 74                               | CSCI 398 | Directed Study                                       | 3 | 6 |   |   |  |                           |     |      |  |
| 75                               | CSCI 408 | Senior Project I                                     | 3 | 6 |   |   |  | CS major only             |     |      |  |
| 76                               | CSCI 434 | Information Security                                 | 3 | 6 |   | CSCI 333 Computer Networks (1145) (D and above) |  | Computer Science          | SST | SHSS |  |
| 77                               | CSCI 471 | Complexity and Computability                         | 3 | 6 | MATH 251 Discrete Mathematics (85) (C- and above)   |   |  | Computer Science          | SST | SHSS |  |
| <b>Robotics and Mechatronics</b> |          |  |   |   |   |   |  |                           |     |      |  |
| 78                               | ROBT 201 | Mechanics: Statics and Dynamics                      | 3 | 6 | MATH 162 Calculus II (170) (C- and above) AND (PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above)) |   |  | Robotics and Mechatronics | SST | SHSS |  |

|    |          |   |   |   |   |  |                           |     |      |  |
|----|----------|---|---|---|---|--|---------------------------|-----|------|--|
| 79 | ROBT 203 | Electrical and Electronic Circuits I with Lab       | 4 | 8 | 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) OR (PHYS 141 Physics I for non-majors with Lab (1437) (C- and above) AND PHYS 142 Physics II for non-majors with Lab (1438) (C- and above))) |  | Robotics and Mechatronics | SST | SHSS |  |
| 80 | ROBT 205 | Signals and Sensing with Lab                        | 4 | 8 | 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 301 | Mechanical Design with CAD and Machining Laboratory | 4 | 8 | ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)   |  | Robotics and Mechatronics | SST | SHSS |  |
| 82 | ROBT 303 | Linear Control Theory with Lab                      | 4 | 8 | ROBT 202 System Dynamics and Modeling (68) (C- and above) AND MATH 274 Introduction to Differential Equations (484) (C- and above)  |  | Robotics and Mechatronics | SST | SHSS |  |
| 83 | ROBT 305 | Embedded Systems                                    | 3 | 6 | ROBT 206 Microcontrollers with Lab (476) (C- and above)   |  | Robotics and Mechatronics | SST | SHSS |  |
| 84 | ROBT 307 | Power Electronics                                   | 3 | 6 | ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)  |  | Robotics and Mechatronics | SST | SHSS |  |
| 85 | ROBT 401 | Robot Dynamics and Control                          | 3 | 6 | ROBT 303 Linear Control Theory with Lab (623) (C- and above)  |  | Robotics and Mechatronics | SST | SHSS |  |
| 86 | ROBT 407 | Machine Learning with Applications                  | 3 | 6 | MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 321 Probability (482) (C and above) AND CSCI 152 Performance and Data Structures (489) (C and above)  |  | Robotics and Mechatronics | SST | SHSS |  |