

**Course Requirements and Registration Priorities**  
**School of Science and Technology, Fall 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 441 | Design of Experiments                     | 3      | 6        | MATH 273 Linear Algebra with Applications (84) (C and above) AND (MATH 310 Applied Statistical Methods (82) (C and above) OR MATH 322 Mathematical Statistics (1165) (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) | SEng, SHSS, SMG                |                           |                           |                           |
| 3                         | BIOL 110 | Modern Biology I                          | 3      | 6        |   |             |   | Biological Sciences, Chemistry | 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                       | SEng, SHSS, SMG           |                           |
| 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                       | SEng, SHSS, SMG           |                           |
| 6                         | BIOL 320 | Developmental Biology                     | 3      | 6        | BIOL 230 Human Anatomy and Physiology I (72) (C and above)  |             |   | Biological Sciences            | SST                       | SEng, SHSS, SMG           |                           |
| 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                       | SEng, SHSS, SMG           |                           |
| 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                       | SEng, SHSS, SMG           |                           |
| 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                       | SEng, SHSS, SMG           |                           |
| 10                        | BIOL 385 | Cell signaling: principles and mechanisms | 3      | 6        | BIOL 120 Modern Biology II (1195) (C and above)   |             |   | Biological Sciences            | SST                       | SEng, SHSS, SMG           |                           |

|                  |          |  |   |    |   |  |  |                                     |  |                 |  |
|------------------|----------|--|---|----|---|--|--|-------------------------------------|--|-----------------|--|
| 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                                      | SEng, SHSS, SMG |  |
| 12               | BIOL 455 | Biotechnology  | 3 | 6  | BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above)   |  |  | Biological Sciences                 | SST                                      | SEng, SHSS, SMG |  |
| 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                                      | SEng, SHSS, SMG |  |
| 14               | BIOL 490 | Graduation Project 1                                   | 4 | 8  |   |  |  | Through Add form only               |  |                 |  |
| 15               | BIOL 492 | Directed Study in Biology                              | 3 | 6  |   |  |  | Through Add form only               |  |                 |  |
| 16               | BIOL 520 | Statistical Methods in Life Sciences                   | 3 | 6  |   |  |  |                                     |  |                 |  |
| 17               | BIOL 550 | Structural and Molecular Biology in Health and Disease | 3 | 6  |   |  |  |                                     |  |                 |  |
| 18               | BIOL 560 | Molecular Biology of Prokaryotic Cells                 | 3 | 6  |   |  |  |                                     |  |                 |  |
| 19               | BIOL 600 | Graduate Seminar Series                                | 3 | 6  |   |  |  |                                     |  |                 |  |
| 20               | BIOL 623 | Advanced Immunology                                    | 3 | 6  |   |  |  | Biological Sciences                 | SST, Science, Engineering and Technology | SEng, SHSS      |  |
| 21               | BIOL 635 | Hot Topics in Life Sciences                            | 3 | 6  |   |  |  |                                     |  |                 |  |
| 22               | BIOL 670 | Gene Therapy   | 3 | 6  |   |  |  | Biological Sciences                 | SST, Science, Engineering and Technology | SEng, SHSS      |  |
| 23               | BIOL 690 | Research Thesis I                                      | 6 | 12 |   |  |  |                                     |  |                 |  |
| <b>Chemistry</b> |          |  |   |    |   |  |  |                                     |  |                 |  |
| 24               | CHEM 090 | Chemistry for Non-Science majors                       | 3 | 6  |   |  |  | SHSS                                |  |                 |  |
| 25               | CHEM 091 | Survey of Physical Science                             | 3 | 6  |   |  |  | SHSS                                |  |                 |  |
| 26               | CHEM 101 | General Chemistry I                                    | 3 | 6  |   |  |  | Biological Sciences, Chemistry, SMG | SST                                      | SEng, SHSS      |  |

|    |           |                                 |   |   |   |   |  |                                     |                     |            |  |
|----|-----------|---------------------------------|---|---|---|---|--|-------------------------------------|---------------------|------------|--|
| 27 | CHEM 101L | General Chemistry I lab         | 1 | 2 |   | CHEM 101 General Chemistry I (113) (C and above)  |  | Biological Sciences, Chemistry, SMG | SST                 | SEng, SHSS |  |
| 28 | CHEM 211  | Organic Chemistry I             | 3 | 6 | CHEM 102 General Chemistry II (232) (C and above)   |   |  | Chemistry                           | Biological Sciences | SST        |  |
| 29 | 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                           | Biological Sciences | SST        |  |
| 30 | 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        |  |
| 31 | CHEM 220  | Quantitative Chemical Analysis  | 3 | 6 | CHEM 102 General Chemistry II (232) (C and above)   |   |  | Chemistry                           | Biological Sciences | SST        |  |
| 32 | CHEM 250  | Descriptive Inorganic Chemistry | 3 | 6 | CHEM 102 General Chemistry II (232) (C and above)   |   |  | Chemistry                           | Biological Sciences | SST        |  |
| 33 | 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                           | Biological Sciences | SST        |  |
| 34 | 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                           | Biological Sciences | SST        |  |
| 35 | CHEM 341  | Biochemistry I                  | 3 | 6 | CHEM 211 Organic Chemistry I (154) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above)  |   |  | Chemistry                           | Biological Sciences | SST        |  |
| 36 | CHEM 341L | Biochemistry I Lab              | 1 | 2 | CHEM 212L Organic Chemistry II Lab (444) (C and above)  | CHEM 341 Biochemistry I (1058) (C and above)      |  | Chemistry                           | Biological Sciences | SST        |  |
| 37 | 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                           | Biological Sciences | SST        |  |
| 38 | CHEM 400  | Chemistry Seminar               | 3 | 6 | CHEM 380 Research Methods (636) (C and above)   |   |  | Chemistry                           | Biological Sciences | SST        |  |
| 39 | CHEM 410  | Structural Spectroscopy         | 4 | 8 | CHEM 212 Organic Chemistry II (443) (C and above)   |   |  | Chemistry                           | Biological Sciences | SST        |  |

|                    |          |  |   |   |   |  |   |   |  |            |  |
|--------------------|----------|--|---|---|---|--|---|---|--|------------|--|
| 40                 | CHEM 471 | Environmental Chemistry                | 3 | 6 | CHEM 320 Instrumental Analysis (1055) (C and above) AND CHEM 212 Organic Chemistry II (443) (C and above) |  |   | Chemistry   | Biological Sciences                      | SST        |  |
| <b>Mathematics</b> |          |  |   |   |   |  |   |   |  |            |  |
| 41                 | MATH 109 | Mathematical Discovery                 | 3 | 6 |   |  |   | MATH 161 Calculus I (118) (C- and above)  | SHSS                                     | SST        |  |
| 42                 | MATH 161 | Calculus I                             | 4 | 8 |   |  |   | 1 year UG SENG, 1 year UG SMG, 1 year UG SST  | SST                                      | SEng, SHSS |  |
| 43                 | MATH 162 | Calculus II                            | 4 | 8 | MATH 161 Calculus I (118) (C and above)   |  |   | 3 year UG SHSS, 4 year UG SHSS, SST   | SHSS                                     |            |  |
| 44                 | MATH 251 | Discrete Mathematics                   | 3 | 6 | MATH 162 Calculus II (170) (C and above)  |  |   | Computer Science, Mathematics   | Physics, Robotics and Mechatronics, SHSS |            |  |
| 45                 | MATH 263 | Calculus III                           | 4 | 8 | MATH 162 Calculus II (170) (C and above)  |  |   | 4 year UG SHSS, SST   | SHSS                                     |            |  |
| 46                 | 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                                     |            |  |
| 47                 | MATH 274 | Introduction to Differential Equations | 3 | 6 | MATH 162 Calculus II (170) (C and above)  |  |   | 4 year UG SHSS, SST   | SHSS                                     |            |  |
| 48                 | 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                        |            |  |
| 49                 | 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                                |            |  |

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|----|----------|---|---|---|---|---|---|-------------|-----------|--|--|
| 50 | MATH 323 | Actuarial Mathematics I                                   | 3 | 6 | MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above) OR (MATH 162 Calculus II (170) (C and above) AND MATH 310 Applied Statistical Methods (82) (C and above)) |   |   | Mathematics | SHSS      |  |  |
| 51 | 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 |  |  |
| 52 | 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 |  |  |
| 53 | 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 |  |  |
| 54 | 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 |  |  |
| 55 | MATH 480 | Complex Analysis  | 3 | 6 | MATH 263 Calculus III (81) (C and above)  |   |   | Mathematics | SHSS, SST |  |  |
| 56 | 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 | SHSS, SST |  |  |
| 57 | MATH 517 | Scientific Modeling and Simulation with Mathematics       | 3 | 6 |   |   |   |             |           |  |  |
| 58 | MATH 518 | Applied Finite Element Analysis                           | 3 | 6 | MATH 517 Scientific Modeling and Simulation with Mathematics (2341) (B- and above) AND MATH 351 Numerical Methods with Applications (1166) (C and above)  |   |   |             |           |  |  |
| 59 | MATH 540 | Statistical Learning                                      | 3 | 6 |   |   |   |             |           |  |  |
| 60 | MATH 576 | Numerical Methods for Partial Differential Equations      | 3 | 6 |   |   |   |             |           |  |  |
| 61 | MATH 676 | Advanced Partial Differential Equations with Applications | 3 | 6 | MATH 481 Partial Differential Equations (1168) (C and above) OR MATH 482 Fourier Analysis (3389) (C and above)  |   |   |             |           |  |  |

**Physics**

|    |          |  |   |   |  |   |   |  |                      |                 |  |
|----|----------|--|---|---|--|---|---|--|----------------------|-----------------|--|
| 62 | 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) | 1 year UG SENG, 1 year UG SMG, 1 year UG SST | SST                  | SEng, SHSS, SMG |  |
| 63 | PHYS 201 | Introductory Astronomy I                               | 3 | 6 |  |   |   | Physics                                      | SEng, SHSS, SMG, SST |                 |  |
| 64 | 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                                      | SST                  | SEng, SHSS, SMG |  |
| 65 | 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                                      | SST                  | SEng, SHSS, SMG |  |
| 66 | PHYS 315 | Mathematical Methods of Physics                        | 3 | 6 | (PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)) AND MATH 274 Introduction to Differential Equations (484) (C- and above)   |   |   | Physics                                      | SST                  | SEng, SHSS, SMG |  |
| 67 | PHYS 361 | Classical Electrodynamics I                            | 3 | 6 |  | PHYS 315 Mathematical Methods of Physics (653) (D and above) OR PHYS 411 Advanced Mathematical Physics (3142) (D and above) |   | Physics                                      | SST                  | SEng, SHSS, SMG |  |
| 68 | PHYS 452 | Quantum Mechanics II                                   | 3 | 6 | PHYS 451 Quantum Mechanics I (1415) (C- and above)   |   |   | Physics                                      | SST                  | SEng, SHSS, SMG |  |
| 69 | PHYS 465 | Advanced Experimental Physics                          | 3 | 6 | PHYS 370 Optics with Laboratory (1405) (C- and above)  |   |   | Physics                                      | SST                  | SEng, SHSS, SMG |  |
| 70 | PHYS 474 | Lasers and Photonics                                   | 3 | 6 | PHYS 370 Optics with Laboratory (1405) (C- and above)  |   |   | Physics                                      | SST                  | SEng, SHSS, SMG |  |
| 71 | PHYS 505 | Classical Mechanics                                    | 3 | 6 |  |   |   |  |                      |                 |  |

|                         |          |  |   |   |  |  |  |                       |  |            |  |
|-------------------------|----------|--|---|---|--|--|--|-----------------------|--|------------|--|
| 72                      | PHYS 511 | Computational Modeling and Simulation    | 3 | 6 |  |  |  | Physics               | SST, Science, Engineering and Technology | SEng, SHSS |  |
| 73                      | PHYS 515 | Classical Electrodynamics                | 3 | 6 |  |  |  |                       |  |            |  |
| 74                      | PHYS 550 | Advanced Mathematical Physics            | 3 | 6 |  |  |  | Physics               | SST, Science, Engineering and Technology | SEng, SHSS |  |
| 75                      | PHYS 574 | Lasers and Photonics                     | 3 | 6 |  |  |  | Physics               | SST, Science, Engineering and Technology | SEng, SHSS |  |
| 76                      | SST 501  | Teaching and Learning                    | 3 | 6 |  |  |  |                       |  |            |  |
| 77                      | SST 503  | Laboratory Practicum                     | 3 | 6 | SST 501 Teaching and Learning (2260) (C- and above) AND SST 502 Teaching Practicum (2824) (C- and above)         |  |  |                       |  |            |  |
| 78                      | SST 591  | Research Methods                         | 3 | 6 |  |  |  |                       |  |            |  |
| 79                      | SST 693  | Thesis Proposal                          | 3 | 6 | SST 591 Research Methods (3184) (C- and above)   |  |  |                       |  |            |  |
| <b>SEDS</b>             |          |  |   |   |  |  |  |                       |  |            |  |
| <b>Computer Science</b> |          |  |   |   |  |  |  |                       |  |            |  |
| 80                      | 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         | SMG, SST                                 | SHSS       |  |
| 81                      | CSCI 231 | Computer Systems and Organization        | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)  |  |  | Computer Science      |  |            |  |
| 82                      | CSCI 235 | Programming Languages                    | 4 | 8 | CSCI 152 Performance and Data Structures (489) (C and above)   |  |  | Computer Science      |  |            |  |
| 83                      | CSCI 262 | Software Project Management              | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C and above)   |  |  | Computer Science      | SST                                      | SHSS       |  |
| 84                      | CSCI 281 | Human-Computer Interaction               | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)  |  |  | Computer Science      | SST                                      | SHSS       |  |
| 85                      | CSCI 299 | Internship I                             | 3 | 6 |  |  |  | Through Add form only |  |            |  |
| 86                      | CSCI 344 | Data Mining and Decision Support         | 3 | 6 | CSCI 341 Database Systems (195) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above) |  |  | Computer Science      |  |            |  |

|                                  |          |                                  |   |   |   |   |  |                           |  |            |  |
|----------------------------------|----------|----------------------------------|---|---|---|---|--|---------------------------|--|------------|--|
| 87                               | CSCI 361 | Software Engineering             | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |   |  | Computer Science          |  |            |  |
| 88                               | CSCI 390 | Artificial Intelligence          | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |   |  | Computer Science          |  |            |  |
| 89                               | CSCI 398 | Directed Study                   | 3 | 6 |   |   |  | Through Add form only     |  |            |  |
| 90                               | CSCI 408 | Senior Project I                 | 3 | 6 |   |   |  | Computer Science          |  |            |  |
| 91                               | CSCI 434 | Information Security             | 3 | 6 |   | CSCI 333 Computer Networks (1145) (D and above) |  | Computer Science          |  |            |  |
| 92                               | CSCI 471 | Complexity and Computability     | 3 | 6 | MATH 251 Discrete Mathematics (85) (C- and above)   |   |  | Computer Science          |  |            |  |
| 93                               | CSCI 494 | Deep Learning                    | 3 | 6 | CSCI 390 Artificial Intelligence (643) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)   |   |  | Computer Science          |  |            |  |
| 94                               | CSCI 501 | Software Principles and Practice | 3 | 6 |   |   |  |                           |  |            |  |
| 95                               | CSCI 511 | CS Track Core-Theory             | 3 | 6 |   |   |  |                           |  |            |  |
| 96                               | CSCI 512 | Information Theory               | 3 | 6 |   |   |  |                           |  |            |  |
| 97                               | CSCI 525 | Quantum Computing                | 3 | 6 |   |   |  | Computer Science, Physics | SST, Science, Engineering and Technology | SEng, SHSS |  |
| 98                               | CSCI 545 | Big Data Analytics               | 3 | 6 |   |   |  |                           |  |            |  |
| 99                               | CSCI 575 | Formal Methods and Applications  | 3 | 6 |   |   |  |                           |  |            |  |
| <b>Robotics and Mechatronics</b> |          |                                  |   |   |   |   |  |                           |  |            |  |
| 100                              | 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                                      |            |  |



|     |          |   |   |   |   |  |                           |     |  |  |
|-----|----------|---|---|---|---|--|---------------------------|-----|--|--|
| 101 | 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 |  |  |
| 102 | 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 |  |  |
| 103 | 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 |  |  |
| 104 | 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 |  |  |
| 105 | ROBT 305 | Embedded Systems                                    | 3 | 6 | ROBT 206 Microcontrollers with Lab (476) (C- and above)   |  | Robotics and Mechatronics | SST |  |  |
| 106 | ROBT 307 | Power Electronics                                   | 3 | 6 | ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)  |  | Robotics and Mechatronics | SST |  |  |
| 107 | ROBT 308 | Industrial Automation                               | 3 | 6 |   |  | Robotics and Mechatronics | SST |  |  |
| 108 | ROBT 401 | Robot Dynamics and Control                          | 3 | 6 | ROBT 303 Linear Control Theory with Lab (623) (C- and above)  |  | Robotics and Mechatronics | SST |  |  |
| 109 | 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 |  |  |
| 110 | ROBT 414 | Human-Robot Interaction                             | 3 | 6 | CSCI 152 Performance and Data Structures (489) (C- and above)   |  | Robotics and Mechatronics | SST |  |  |
| 111 | ROBT 501 | Robot Manipulation and Mobility                     | 3 | 6 |   |  |                           |     |  |  |
| 112 | ROBT 503 | Dynamic Systems and Control                         | 3 | 6 |   |  |                           |     |  |  |

|     |          |                              |   |   |  |  |  |          |  |            |  |
|-----|----------|------------------------------|---|---|--|--|--|----------|--|------------|--|
| 113 | ROBT 611 | Industrial Robotics          | 3 | 6 | ROBT 501 Robot Manipulation and Mobility (2263) (C- and above) AND CSCI 501 Software Principles and Practice (2408) (C- and above) |  |  | Robotics | SST, Science, Engineering and Technology | SEng, SHSS |  |
| 114 | ROBT 613 | Brain-Machine Interfaces     | 3 | 6 |  |  |  | Robotics | SST, Science, Engineering and Technology | SEng, SHSS |  |
| 115 | ROBT 615 | Optimal Control and Planning | 3 | 6 | ROBT 501 Robot Manipulation and Mobility (2263) (C- and above) AND ROBT 503 Dynamic Systems and Control (2264) (C- and above)      |  |  | Robotics | SST, Science, Engineering and Technology | SEng, SHSS |  |