

**Table A. 1 Bachelor of Science Degree Program in Modeling and Simulation Engineering
Full-Time Students (Four-Year Plan)**

| <u>Course Number</u> | <u>Course Title</u> | <u>Credits</u> | <u>Pre-/Co-Requisites</u> |
|---|---|----------------|-----------------------------|
| Freshman Year – First Semester | | | |
| MATH 211 | Calculus I | 4 | P-Placement Exam |
| ENGL 110C | English Composition I | 3 | P-Placement Exam |
| CHEM115N | Chemistry I | 4 | C-MATH 102M |
| ENGN 110 | Engineering & Technology I | 2 | C-MATH 162M |
| HUM/SS | General Education | 3 | |
| Freshman Year – Second Semester | | | |
| MATH 212 | Calculus II | 4 | P-MATH 211 |
| CHEM 117 | Chemistry II | 3 | P-CHEM 115N |
| CS 150 | Programming I | 4 | P-MATH 102M |
| PHYS 231N | University Physics I | 4 | P/C-MATH 211 |
| ENGN 111 | Engineering & Technology II | 2 | P-MATH 162M |
| Sophomore Year – First Semester | | | |
| MATH 307 | Differential Equations | 3 | P-MATH 212 |
| PHYS 232N | University Physics II | 4 | P-PHYS 231N |
| CS 250 | Programming II | 4 | P-CS 150, C-CS 252 |
| CS 252 | Introduction to UNIX | 1 | |
| MSIM 201 | Introduction to M&S | 3 | P-MATH 211, C-CS 150 |
| Sophomore Year – Second Semester | | | |
| STAT 330 | Probability and Statistics | 3 | P-MATH 211 |
| ENGL 131C | Technical Writing | 3 | P-ENGL 110C |
| HUM/SS | General Education | 3 | |
| HUM/SS | General Education | 3 | |
| MSIM 205 | Discrete Event Simulation | 3 | P-MSIM 201, C-STAT 330 |
| MSIM 281 | M&S Laboratory 1 | 1 | C-MSIM 205 |
| Junior Year – First Semester | | | |
| CS 361 | Data Structures | 3 | P-CS 250 & CS 252 |
| HUM/SS | General Education | 3 | |
| CS 381 | Introduction to Discrete Structures | 3 | P-MATH 163 & CS 150 |
| MSIM 320 | Continuous Simulation | 3 | P-MSIM 205 & MATH 307 |
| MSIM 382 | M&S Laboratory 2 | 1 | C-MSIM 320, P-CS 250 |
| MSIM 351 | Analysis for M&S | 3 | P-MSIM 205, P or C-MSIM 320 |
| Junior Year – Second Semester | | | |
| MSIM 330 | Simulation Software Design | 3 | P-CS 361 |
| HUM/SS | General Education | 3 | |
| Depth | Minor | 3 | |
| MSIM 306 | Distributed Simulation | 3 | P/C-MSIM 320 |
| MSIM 383 | M&S Laboratory 3 | 1 | C-MSIM 306 |
| ENMA 401 | Project Management | 3 | P-MSIM 205 & MSIM 351 |
| Senior Year – First Semester | | | |
| Depth | Minor | 3 | |
| MSIM 441 | Computer Graphics & Visualization | 3 | P-CS 361 & MSIM320 |
| MSIM 487 | Capstone Design I | 4 | P/C-MSIM 306 & CS 350 |
| CS 330 | Object-Oriented Programming and Design | 3 | P-MATH 163, CS 252 & CS 250 |
| ELECT | Approved Elective | 3 | |
| Senior Year – Second Semester | | | |
| Depth | Minor | 3 | |
| Depth | Minor | 3 | |
| MSIM 488 | Capstone Design II | 3 | P-MSIM 487 |
| CS 480 | Introduction to Artificial Intelligence | 3 | P- CS 361 |
| ELECT | Approved Elective | 3 | |
| ENGN 401 | FE Exam Review | 1 | P-Senior Standing |
| | | Total | 128 |