# Degree
## PROGRAMS

FULL SAIL UNIVERSITY
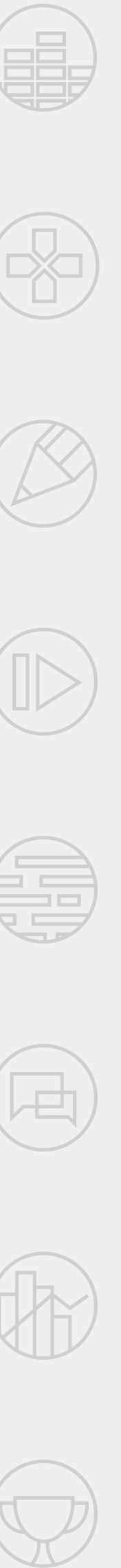
# Simulation & Visualization
## Undergraduate Degree Program - *Campus*

### OVERVIEW

In today's digital world, simulation and visualization technologies have become widespread throughout many industries for education, science, training, and entertainment purposes. From creating computerized models for understanding complex data to developing virtual environments for gaming, simulation and visualization technologies solve challenging problems, enable learning, and provide visual insight into abstract problems and ideas. The Simulation & Visualization curriculum was designed to create future engineers who will develop simulation and visualization systems for the twenty-first century. It was also designed to provide you with the technical and critical-thinking skills needed to study, design, develop, and test simulation and visualization systems.

Furthermore, the curriculum allows you to develop your programming skills with hands-on experience in the engineering of simulation and visualization systems. You are trained using real-world approaches and emerging technologies to keep pace with this dynamic industry and prepare you for success in the twenty-first century. In addition to developing your technical expertise and subject knowledge, the Simulation & Visualization curriculum is designed to develop your creativity. You will learn strategies for engineering simulations and visualizations and apply those methods to develop unique engineering projects of your own.

### ASSOCIATE'S OBJECTIVE

The goal of the Simulation & Visualization Associate of Science degree program is to develop programmers and future engineers with the creative and critical-thinking skills and technical expertise required to produce simulations and visualizations based on real-world needs and applications. In addition to coding skills and a computer-science foundation, this program helps you develop an applicable knowledge of discrete mathematics, linear algebra, object-oriented programming, and physics. The curriculum in this degree program also encompasses courses that address data structures and algorithms, software engineering, applied human-computer interaction, and mythology. The Simulation & Visualization Associate of Science degree is designed to prepare you to engage in constructive simulations and visualizations for training and entertainment applications. Graduates of the Simulation & Visualization Associate of Science degree program will be prepared to enter the workforce as entry-level programmers, developers, scripters, and quality-assurance testers.

### BACHELOR'S OBJECTIVE

The goal of the Simulation & Visualization Bachelor of Science degree program is to develop engineers with the creative and critical-thinking skills and technical expertise required to produce simulations and visualizations based on real-world needs and applications. You will learn how to test and validate these simulations and visualizations, allowing you to display the skills needed to work in this new and growing industry. The curriculum in this degree program encompasses courses that address programming, simulation electronics, visualization software, artificial intelligence, behavior modeling, mission-critical systems, analysis methods, leveraging content libraries, and simulation environments. This program is designed to prepare you to engage in constructive simulations and visualizations for training and entertainment applications. Graduates of the Simulation & Visualization Bachelor of Science degree program will be prepared to enter the workforce as entry-level simulation and visualization engineers.

### Campus
#### Chronological Course Schedule by Months

| | | MONTH | CODE | COURSES | CREDIT HOURS |
|---|---|---|---|---|---|
| Bachelor's Program | Associate's Program | 1 | GEN1011 | Creative Presentation | 3.0 |
| | | | DEP1013 | Psychology of Play | 3.0 |
| | | 2 | TEM1001 | Technology in the Entertainment and Media Industries | 4.0 |
| | | | MAD1100 | Discrete Mathematics | 4.0 |
| | | 3 | COP1000 | Programming I | 4.0 |
| | | 4 | COP2334 | Programming II | 4.0 |
| | | 5 | SDV3111 | Systems Programming | 4.0 |
| | | | SIMC111 | Professional Development Seminar I: Simulation and Visualization* | 1.0 |
| | | 6 | COS119 | Project and Portfolio I: Computer Science | 3.0 |
| | | | ENC1101 | English Composition I* | 4.0 |
| | | 7 | SDV2213 | Data Structures and Algorithms | 4.0 |
| | | | GEN242 | Linear Algebra | 4.0 |
| | | 8 | GDD258 | Software Engineering | 4.0 |
| | | | SDV3012 | Applied Human-Computer Interaction | 3.0 |
| | | 9 | GEN262 | Physics | 4.0 |
| | | | SVB229 | Project and Portfolio II: Simulation and Visualization | 3.0 |
| | | 10 | SVB239 | Project and Portfolio III: Simulation and Visualization | 3.0 |
| | | | SIMC222 | Professional Development Seminar II: Simulation and Visualization* | 1.0 |
| | | 11 | SIM313 | Microcontrollers | 4.0 |
| | | | GDD291 | Operating Systems | 3.0 |
| | | 12 | SIM3073 | Simulation and Visualization Software | 3.0 |
| | | | COD3721 | Computer Networks | 3.0 |
| | | 13 | SIM3321 | Digital Fabrication | 4.0 |
| | | 14 | GEN3322 | Probability | 4.0 |
| | | | SVB349 | Project and Portfolio IV: Simulation and Visualization | 3.0 |
| | | 15 | COD3315 | Computer Graphics | 3.0 |
| | | | SIM3032 | Data Visualization and Modeling | 3.0 |
| | | 16 | CAP4053 | Artificial Intelligence | 4.0 |
| | | | SIM4319 | Virtual and Augmented Reality | 3.0 |
| | | 17 | SIM4175 | Simulation and Visualization Environments | 3.0 |
| | | | HIS3320 | Historical Archetypes and Mythology | 4.0 |
| | | 18 | SVB359 | Project and Portfolio V: Simulation and Visualization | 3.0 |
| | | | SVB469 | Project and Portfolio VI: Simulation and Visualization | 3.0 |
| | | 19 | SIM4819 | Simulation Production | 3.0 |
| | | 20 | SIMC444 | Career Readiness: Simulation and Visualization* | 4.0 |
| | | | SVB479 | Project and Portfolio VII: Simulation and Visualization | 3.0 |

**BACHELOR'S TOTAL CREDIT HOURS: 120**
**BACHELOR'S TOTAL WEEKS: 80**
**ASSOCIATE'S TOTAL CREDIT HOURS: 60**
**ASSOCIATE'S TOTAL WEEKS: 40**