

Game Design & Development

BS in Game Design & Development (Fall 2018 & Later)

Minimum 120 credits required for Bachelor's degree

Foundational Core (30-32 Credits) Grade

| | | |
|--|--|--|
| FYXX 125 ¹ | First Year Seminar | |
| CTL 125 | Critical Thinking | |
| MA _____ | Foundational Core Math course ³ | |
| Choose 1 course from each area * | | |
| ² Natural and Physical Science ⁴ | | |
| Literature | | |
| History | HI-100 or HI-102 | |
| Arts/Design/Comm. ⁵ | | |
| Philosophy | | |
| Theology/Relig | | |
| Social/Behavioral Science ⁶ | | |

Human Journey Seminars: Great Books in CIT (6 Credits)

| | | |
|---------|----------------|--|
| CIT 201 | CIT Seminar I | |
| CIT 202 | CIT Seminar II | |

Liberal Arts Explorations (9 Credits Total)

**Student must complete one course in each area.
(see list on Registrar's Website - checksheets)**

| | | |
|--|--|--|
| Humanistic Inquiry (3 credits) | | |
| | | |
| Social and Global Awareness | | |
| | | |
| Scientific Literacy (3 credits) ⁷ | | |

* See list of courses.

¹(Requires Grade C or higher)

²Science/Natural Science courses includes

approved Math and Computer Science courses. Students are required to take at least one course in Biology, Chemistry, or Physics in the Foundational or Liberal Arts Exploration Core. CS and MA courses may be used as a Science/Natural Science in either the Foundational Core or as a requirement in the LAE Core but not in both categories.

³ MA106/MA140/MA151 may count in this area

⁴ PY151/153 may count in this area

⁵ AR114 may count in this area

⁶ EC101 or EC202 is recommended

⁷ MA131 may count in this area

Note: MA 006 and ESL courses **will not** count towards the 120 credit graduation requirement.

Approved Study Abroad courses may be used to satisfy requirements for the foundational core or a Liberal Arts Exploration

A maximum of 8 Applied Music credits may be applied towards graduation

52 credits GAME DEVELOPMENT & DESIGN

| REQUIRED CURRICULUM FOR GAMING OPTION | | Grade |
|---------------------------------------|--|-------|
| CS 110 | Introduction to CS(may be waived) | |
| CS 111 | Introduction to Structured Programming | |
| CS 112 | Data Structures | |
| CS 113 | Discrete Structures | |
| CS 215 | Comp. Systems Organization/Assembler | |
| CS 312 | Software Engineering | |
| CS 318 | Project Course | |
| CS 319 | Computer Ethics | |
| CS 339 | Networking and Data Communications | |
| CS 341 | Analysis of Algorithms | |
| CS 349 | Operating Systems | |

| GAMING OPTION | | Grade |
|---------------|---------------------------------|-------|
| CS 171 | Introduction to Computer Gaming | |
| CS 271 | Game Development | |
| CS 272 | OOP with C# and Games | |
| CS 273 | 3D Object Creation | |
| CS 333 | Theory of Computer Gaming | |
| CS 371 | Advanced Game Programming | |
| CS 372 | Building Computer Games | |

| Required Supporting Courses Gaming Option* | | Grade |
|--|---------------------------------|-------|
| MA 131 | Elementary Statistics ** | |
| MA 151 | Calculus | |
| PY151/153 | Principles of Physics I and Lab | |
| AR 114 | Photoshop and Illustrator | |
| | *Must have grade of C or better | |

| General Electives (number of credits vary) | | Grade |
|--|--|-------|
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Checksheets Key

| | |
|----|--|
| T | Course transferred and Requirement satisfied |
| W | Requirement waived |
| TW | Course transferred and Requirement waived |

** Counts in LAE

Welch College of Business
BS in Game Design and Development (Fall 2018 & Later)

The computer science field has experienced dramatic growth and technological development within the last decade. The 21st century is measuring up to be even more dynamic for the computer science field. The Sacred Heart University Computer Science Department addresses the need for qualified professionals with a variety of skills. With the surge in interactive active computer games for both learning and entertainment, the need for developers has risen and the industry is experiencing a severe shortage of game programmers. In order to prepare students to meet this demand a special track has been developed. This track, which consists of courses which focus on the design and development of computer games, will provide students with a strong base in computer science as well as a concentration in gaming. For those students wishing to also pursue a Master's Degree, a five year gaming option will be available which will allow the student to obtain both a Bachelor's and a Master's Degree.

The Gaming Track is designed to provide individuals with skills in game design, development, storyboarding, animation, creation of objects, programming languages and action scripting. Upon completion of the degree, the student will be better equipped to enter the field of game development as a professional.

The Computer Science Gaming major is required to successfully complete 52 credit hours. The remaining credits required for graduation are within the liberal arts core curriculum.

SUGGESTED FOUR YEAR SEQUENCE OF STUDY

(If CS 110 is waived...otherwise CS 110 is taken semester 1 and CS 111 follows in semester 2)

Game Design and Development Major

| YEAR 1 | SEMESTER 1 | YEAR 1 | SEMESTER 2 |
|--------------------|---|--------------------|---|
| FYXX125 OR CTL 125 | First Year Seminar OR Critical Thinking | FYXX125 OR CTL 125 | First Year Seminar OR Critical Thinking |
| MA 151 | Calculus I | CS 112 | Data Structures |
| CS 111 | Intro to Structured Programming | CS 113 | Discrete Structures |
| CS 171 | Introduction to Computer Gaming | CS 273 | 3D Digital Object Creation |
| HI 100 OR 102 | Western Civ I or II | | Foundational Core |
| YEAR 2 | SEMESTER 3 | YEAR 2 | SEMESTER 4 |
| CIT 201 | Human Hourney Seminar | CIT 202 | Human Hourney Seminar |
| MA 131 | Elementary Statistics (LAE Literacy) | CS 215 | Computer Systems Organ. |
| CS 271 | Game Development | CS 272 | OOP with C# and Games |
| | Foundational Core | | Foundational Core |
| | Foundational Core | | |
| YEAR 3 | SEMESTER 5 | YEAR 3 | SEMESTER 6 |
| ART 114 | PhotoShop and Illustrator | CS 312 | Software Engineering |
| CS 371 | Advanced Game Programming | CS 341 | Algorithms |
| PY 151/153 | General Physics I | CS 372 | Building Computer Games |
| CS 333 | Theory of Computer Gaming | | Free Elective |
| | Free Elective | | |
| YEAR 4 | SEMESTER 7 | YEAR 4 | SEMESTER 8 |
| CS 318 | Project Course | CS 349 | Operating Systems |
| CS 319 | Computer Ethics (LAE Awareness) | CS 339 | Networking and Data Communications |
| | LA Exploration Awareness | | Free Elective |
| | Free Elective/Internship | | Free Elective |
| | | | Free Elective |