

INFORMATION TECHNOLOGY

SIMULATION & GAME DEVELOPMENT

Art and Modeling Degree – A25450A and Programming Degree - A25450P

The Simulation and Game Development curriculum provides a broad background in simulation and game development with practical applications in creative arts, visual arts, audio/video technology, creative writing, modeling, design, programming and management.

Students receive hands-on training in design, 3D modeling, animation, level design, software engineering, and programming for the purpose of creating simulations and games.

Graduates could qualify for employment as designers, artists, animators, programmers, quality assurance testers and analysts, engineers and administrators in the entertainment industry, the health care industry, engineering, forensics, education, and government agencies.

Simulation and Game Development- Art & Modeling Degree - A25450A

-Day and Evening

Program Sequence

FALL SEMESTER

ACA 111	College Student Success	1
ENG 111	Writing and Inquiry	3
SGD 111	Introduction to SGD	3
SGD 113	SGD Programming.....	3
SGD 116	Graphic Design Tools.....	3
— —	Social Science Elective	3

SPRING SEMESTER

— —	Math Elective	3
SGD 112	SGD Design	3
SGD 114	3D Modeling.....	3
SGD 117	Art for Games	3
SGD 163	SG Documentation.....	3

SUMMER SEMESTER

COM 231	Public Speaking	3
— —	Major Elective	2

FALL SEMESTER

SGD 162	SGD 3D Animation.....	3
SGD 174	SG Level Design.....	3
SGD 212	SGD Design II.....	3
SGD 214	3D Modeling II.....	3
— —	Major Elective	3

SPRING SEMESTER

— —	Major Elective	2
SGD 134	SG Quality Assurance.....	3
SGD 158	SGD Business Management	3
SGD 166	SG Physiology/Kinesis	3
— —	SGD 165 or SGD 172	3

SUMMER SEMESTER

SGD 289	SGD Project.....	3
— —	Humanities and Fine Arts Elective.....	3

Graduation Requirements 71 Credit Hours

Math Elective

(Select 3 credit hours from the following courses)

MAT 121	Algebra/Trigonometry I	3
MAT 143	Quantitative Literacy	3
MAT 152	Statistical Methods 1.....	4
MAT 171	Pre-calculus Algebra	4

Humanities/Fine Arts Elective

(Select 3 credit hours from the following courses)

ART 111	Art Appreciation	3
ENG 125	Creative Writing I.....	3
HUM 110	Technology and Society.....	3
HUM 130	Myth in Human Culture	3
HUM 160	Introduction to Film	3
REL 110	World Religions	3

Social/Behavioral Science Elective

(Select 3 credit hours from the following courses)

ECO 151	Survey of Economics.....	3
HIS 111	World Civilizations I.....	3
PSY 150	General Psychology	3
SOC 210	Introduction to Sociology	3

Major Required Electives

(Select a minimum of 7 credit hours from the following courses)

SGD 135	Serious Games	3
SGD 159	SGD Production Management	3
SGD 167	SG Ethics.....	3
SGD 168	Mobile SG Programming I.....	3
SGD 180	SGD HTML Programming I	3
SGD 210	3D Data Capture.....	3
SGD 237	Rigging 3D Models.....	3
SGD 239	SGD Tech Art	3
SGD 242	SGD Photogrammetry.....	3
SGD 262	SGD 3D Animation II.....	3
SGD 268	Mobile SG Programming II.....	3
SGD 274	SG Level Design II	3
SGD 288	SGD Portfolio Design.....	2
WBL 111	Work-Based Learning I	1
WBL 112	Work-Based Learning I	2

*WBL courses completed for one program may not count toward the completion of another program. For verification of WBL course work, please contact your academic advisor and/or your departmental Work-Based Learning faculty coordinator. The Work-Based Learning period may be taken over two semesters as WBL-112 and WBL-121 or over three semesters as WBL-111, WBL-121, and WBL-131.

Simulation and Game Development- Programming Degree - A25450P

-Day and Evening

Program Sequence

FALL SEMESTER

ACA 111	College Student Success	1
ENG 111	Writing and Inquiry	3
SGD 111	Introduction to SGD	3
SGD 116	Graphic Design Tools	3
SGD 113	SGD Programming	3
— —	Social Science Elective.....	3

SPRING SEMESTER

MAT 171	Pre-calculus Algebra.....	4
SGD 112	SGD Design.....	3
SGD 114	3D Modeling	3

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SGD 163	SG Documentation.....	3
SGD 213	SGD Programming II.....	3

SUMMER SEMESTER

COM 231	Public Speaking.....	3
— —	Major Elective.....	2

FALL SEMESTER

SGD 168	Mobile SG Programming I.....	3
SGD 174	SG Level Design.....	3
SGD 212	SGD Design II.....	3
SGD 285	SG Software Engineering.....	3
— —	Major Elective.....	3

SPRING SEMESTER

PHY 151	College Physics I.....	4
SGD 134	SG Quality Assurance.....	3
SGD 158	SGD Business Management.....	3
SGD 180	SGD HTML Programing I.....	3
— —	Major Elective.....	2

SUMMER TERM

SGD 289	SGD Project.....	3
— —	Humanities and Fine Arts Elective.....	3

Graduation Requirements..... 73 Credit Hours

Humanities/Fine Arts Elective

(Select 3 credit hours from the following courses)

ART 111	Art Appreciation.....	3
ENG 125	Creative Writing I.....	3
HUM 110	Technology and Society.....	3
HUM 130	Myth in Human Culture.....	3
HUM 160	Introduction to Film.....	3
REL 110	World Religions.....	3

Social/Behavioral Science Elective

(Select 3 credit hours from the following courses)

ECO 151	Survey of Economics.....	3
HIS 111	World Civilizations I.....	3
PSY 150	General Psychology.....	3
SOC 210	Introduction to Sociology.....	3

Major Electives (Choose a minimum of 7 credit hours from the following)

SGD 135	Serious Games.....	3
SGD 159	SGD Production Management.....	3
SGD 162	SG 3D Animation.....	3
SGD 167	SG Ethics.....	3
SGD 172	Virtual SG Environments.....	3
SGD 210	3D Data Capture.....	3
SGD 237	Rigging 3D Models.....	3
SGD 239	SGD Tech Art.....	3
SGD 242	SGD Photogrammetry.....	3
SGD 262	SGD 3D Animation II.....	3
SGD 268	Mobile SG Programming II.....	3
SGD 274	SG Level Design II.....	3
SGD 288	SGD Portfolio Design.....	2
WBL 111	Work Based Learning I.....	1
WBL 112	Work Based Learning I.....	2

*WBL courses completed for one program may not count toward the completion of another program. For verification of WBL course work, please contact your academic advisor and/or your departmental Work-Based Learning faculty coordinator. The Work-Based Learning period may be taken over two semesters as WBL-112 and WBL-121 or over three semesters as WBL-111, WBL-121, and WBL-131.

Modeling and Animation Certificate - C25450A

This certificate focuses on the skills needed for an entry-level artist within the simulation or video game industry. Training includes 3d modeling, animation and character development.

SGD 116	Graphic Design Tools.....	3
SGD 114	3D Modeling.....	3
SGD 162	SG 3D Animation.....	3
— —	SGD 165 or SGD 172.....	3
SGD 214	3D Modeling II.....	3

Graduation Requirements..... 15 Credit Hours

Production Certificate - C25450B

This certificate focuses on skills needed for entry-level positions in the production side of game development or simulation. Course material includes training for management of a production team, business, development, design and documentation.

SGD 111	Introduction to SGD.....	3
SGD 112	SGD Design.....	3
SGD 163	SG Documentation.....	3
SGD 212	SGD Design II.....	3
SGD 158	SGD Business Management.....	3
SGD 159	SGD Production Management.....	3

Graduation Requirements..... 18 Credit Hours

Mobile Game Development Certificate - C25450C

The mobile game development certificate prepares students with skills needed to build games or simulations for mobile devices. This certificate focuses primarily on Apple devices and secondarily the Android market.

SGD 112	SGD Design.....	3
SGD 113	SGD Programming.....	3
SGD 114	3D Modeling.....	3
SGD 116	Graphic Design Tools.....	3
SGD 168	Mobile SG Programming I.....	3
SGD 268	Mobile SG Programming II.....	3

Graduation Requirements..... 18 Credit Hours

Fundamentals I for Simulation and Game Development Certificate - C25450D

Fundamentals I is the first in a series of four step certificates toward the simulation and game development degree. This certificate introduces design, texturing, traditional art and programming basics as well as what to expect with a career in simulation or video game development.

SGD 111	Introduction to SGD.....	3
SGD 112	SGD Design.....	3
SGD 113	SGD Programming.....	3
SGD 116	Graphic Design Tools.....	3

Graduation Requirements..... 12 Credit Hours

Fundamentals II for Simulation and Game Development Certificate - C25450E

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Fundamentals II is the second in a series of four step certificates toward the simulation and game development degree. This certificate covers topics in 3D modeling, documentation, advanced design principals and introduces programming languages used in the industry.

SGD 114	3D Modeling	3
SGD 163	SG Documentation	3
SGD 212	SGD Design II	3
— —	SGD 117 or SGD 213	3

Graduation Requirements 12 Credit Hours

Quality Assurance for Simulation and Game Development Certificate - C25450F

Quality Assurance is the third in a series of four step certificates toward the simulation and game development degree. This certificate focuses on skills required for a position as a quality assurance tester in the simulation or video game industry.

SGD 134	SG Quality Assurance	3
SGD 174	SG Level Design	3
— —	SGD 180 or SGD 214	3
— —	SGD 168 or SGD 162	3

Graduation Requirements 12 Credit Hours

Business for Simulation and Game Development Certificate - C25450G

Business for SGD is the final in a series of four step certificates toward the simulation and game development degree. This certificate introduces students to the business development side of the industry, the audio/video career field and tackles advanced topics in programming and art.

SGD 158	SGD Business Management	3
— —	Elective I	3
— —	Major Elective	3
— —	Major Elective	3

Graduation Requirements 12 Credit Hours

Elective I

(Choose a Min of 3 Credit Hrs)

SGD 285	SG Software Engineering	3
SGD 165	SG Character Development	3
SGD 172	Virtual SG Environments	3

Major Electives

(Choose a Min of 5 Credit Hrs)

SGD 135	Serious Games	3
SGD 159	SGD Production Management	3
SGD 167	SG Ethics	3
SGD 168	Mobile SG Programming I	3
SGD 172	Virtual SG Environments	3
SGD 210	3D Data Capture	3
SGD 237	Rigging 3D Models	3
SGD 239	SGD Tech Art	3
SGD 242	SGD Photogrammetry	3
SGD 262	SGD 3D Animation II	3
SGD 268	Mobile SG Programming II	3
SGD 274	SG Level Design II	3

Programming for Simulation and Game Development Certificate - C25450H

This certificate prepares students for an entry-level programming position within the simulation or video game industry.

SGD 113	SGD Programming	3
SGD 213	SGD Programming II	3
SGD 180	SGD HTML Programming I	3
SGD 168	Mobile SG Programming I	3
SGD 285	SG Software Engineering	3

Graduation Requirements 15 Credit Hours

Level Design Certificate – C25450I

This certificate focuses on training students to design and implement levels within a video game or simulation.

SGD 112	SGD Design	3
SGD 114	3D Modeling	3
SGD 172	Virtual SG Environments	3
SGD 174	SG Level Design	3
SGD 274	SG Level Design II	3

Graduation Requirements 15 Credit Hours

Tech Art Certificate – C25450J

This certificate focuses on training students in the creation and integration of 3d art assets and tools into the simulation & game development pipeline.

SGD 113	SGD Programming	3
SGD 114	3D Modeling	3
SGD 210	3D Data Capture	3
SGD 239	SGD Tech Art	3
SGD 242	SGD Photogrammetry	3

Graduation Requirements 15 Credit Hours

Technical Animation Certificate – C25450K

This certificate prepares students to create assets using 3D data capture and advanced animation techniques for integration into the simulation and game development pipeline.

SGD 114	3D Modeling	3
SGD 162	SGD Animation	3
SGD 210	3D Data Capture	3
SGD 237	Rigging 3D Models	3
SGD 262	SGD 3D Animation II	3

Graduation Requirements 15 Credit Hours