

COMPUTER TECHNOLOGIES

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 will receive hands-on training in design, 3D modeling, software engineering, database administration and programming for the purpose of creating simulations and games.

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

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.

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.

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.

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.

Fundamentals II for Simulation and Game Development Certificate - C25450E

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.

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.

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.

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.

Level Design - C25450I

This certificate prepares students for an entry-level positions as a level designer within the simulation or video game industry.

Simulation and Game Development- Art & Modeling Degree - A25450A

-Day and Evening

Program Sequence

FIRST FALL SEMESTER

ACA	111	College Student Success.....	1
ENG	111	Writing and Inquiry.....	3
SGD	111	Introduction to SGD.....	3
SGD	112	SGD Design.....	3
SGD	116	Graphic Design Tools.....	3
SGD	117	Art for Games.....	3

FIRST SPRING SEMESTER

—	—	Math Elective.....	3
SGD	113	SGD Programming.....	3
SGD	114	3D Modeling.....	3
SGD	163	SG Documentation.....	3
SGD	212	SGD Design II.....	3

FIRST SUMMER SEMESTER

—	—	English Elective.....	3
—	—	HUM / FA Elective.....	3

SECOND FALL SEMESTER

SGD	166	SG Physiology / Kinesis.....	3
SGD	134	SG Quality Assurance.....	3
SGD	174	SG Level Design.....	3
SGD	214	3D Modeling II.....	3
SGD	162	SG 3 D Animation.....	3

SECOND SPRING SEMESTER

—	—	Social Science Elective.....	3
—	—	Major Elective.....	2
SGD	165	SG Character Development.....	3
SGD	158	SGD Business Management.....	3
SGD	164	SG Audio / Video.....	3

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	Precalculus Algebra.....	4

Humanities/Fine Arts Elective

(Select 3 credit hours from the following courses)

ART	111	Art Appreciation.....	3
DRA	126	Storytelling.....	3
ENG	125	Creative Writing I.....	3

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HUM 110	Technology and Society.....	3
HUM 130	Myth in Human Culture.....	3
HUM 160	Introduction to Film.....	3
REL 110	World Religions.....	3

Communications Electives

(Select 3 credit hours from the following courses)

ENG 112	Argument-Based Research.....	3
ENG 120	Intro Interpersonal Communication.....	3
COM 231	Public-Speaking.....	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 4 credit hours)

SGD 135	Serous Games.....	3
SGD 159	SGD Production Management.....	3
SGD 161	SG Animation.....	3
SGD 167	SG Ethics.....	3
SGD 168	Mobile SG Programming I.....	3
SGD 172	Virtual SG Environments.....	3
SGD 237	Rigging 3D Models.....	3
SGD 244	3D Modeling III.....	3
SGD 268	Mobile SG Programming II.....	3
SGD 274	SG Level Design II.....	3
SGD 280	SGD HTML Programming I.....	3
SGD 288	SGD Portfolio Design.....	2
WBL 112	Work-Based Learning I.....	2

Graduation Requirements..... 71 Credit Hours

Simulation and Game Development- Programming Degree - A25450P

-Day and Evening

Program Sequence

FIRST FALL SEMESTER

ACA 111	College Student Success.....	1
ENG 111	Writing and Inquiry.....	3
SGD 111	Introduction to SGD.....	3
SGD 112	SGD Design.....	3
SGD 116	Graphic Design Tools.....	3
SGD 113	SGD Programming.....	3

FIRST SPRING SEMESTER

SGD 213	SGD Programming II.....	3
MAT 171	Precalculus Algebra.....	4
SGD 114	3D Modeling.....	3
SGD 163	SG Documentation.....	3
SGD 212	SGD Design II.....	3

FIRST SUMMER SEMESTER

— —	English Elective.....	3
— —	HUM / FA Elective.....	3

SECOND FALL SEMESTER

PHY 151	College Physics I.....	4
SGD 134	SG Quality Assurance.....	3
SGD 174	SG Level Design.....	3
SGD 180	SGD HTML Programming I.....	3
SGD 285	SG Software Engineering.....	3

SECOND SPRING SEMESTER

— —	Social Science Elective.....	3
— —	Major Elective I.....	2
SGD 158	SGD Business Management.....	3
SGD 164	SG Audio / Video.....	3
SGD 168	Mobile SG Programming I.....	3

SECOND SUMMER TERM

— —	Major Elective I.....	2
SGD 289	SGD Project.....	3

Humanities/Fine Arts Elective

(Select 3 credit hours from the following courses)

ART 111	Art Appreciation.....	3
DRA 126	Storytelling.....	3
ENG 125	Creative Writing I.....	3
HUM 130	Myth in Human Culture.....	3
HUM 160	Introduction to Film.....	3
REL 110	World Religions.....	3

Communication Elective

(Select 3 credit hours from the following courses)

ENG 112	Argument-Based Research.....	3
COM 120	Intro Interpersonal Communication.....	3
COM 231	Public-Speaking.....	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 4 credit hours from the following)

SGD 135	Serious Games.....	3
SGD 159	SGD Production Management.....	3
SGD 161	SG Animation.....	3
SGD 167	SG Ethics.....	3
SGD 172	Virtual SG Environments.....	3
SGD 237	Rigging 3D Models.....	3
SGD 244	3D Modeling III.....	3
SGD 268	Mobile SG Programming II.....	3
SGD 274	SG Level Design II.....	3
SGD 280	SGD HTML Programming I.....	3
SGD 288	SGD Portfolio Design.....	2
WBL 112	Work Based Learning I.....	2

Graduation Requirements..... 72 Credit Hours

Modeling and Animation Diploma - D25450B

The modeling and animation diploma prepares students for entry-level positions as an artist in the simulation or video game industry. The program provides training in design, traditional art, texturing, 3D modeling, rigging, and animation as well as creating audio and video content for simulations or game development.

General Education Courses

Required Courses

ENG 111	Expository Writing.....	3
SGD 111	Introduction to SGD.....	3
SGD 112	SGD Design I.....	3
SGD 114	3D Modeling.....	3
SGD 116	Graphic Design Tools.....	3
SGD 117	Art for Games.....	3
SGD 162	SG 3D Animation.....	3
SGD 164	SG Audio/Video.....	3
SGD 165	SG Character Development.....	3
SGD 166	SG Physiology/Kinesis.....	3
SGD 212	SGD Design II.....	3

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SGD	214	3D Modeling II.....	3
—	—	SGD 237 or SGD 244	3
—	—	Math Elective	3

Math Elective

(Select 3.0 hours from the following courses)

MAT	121	Algebra/Trigonometry I.....	3
MAT	143	Quantitative Literacy	3
MAT	152	Statistical Methods I.....	4
MAT	171	Precalculus Algebra	3

Graduation Requirements 45 Credit Hours