

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.

Simulation and Game Development- Art & Modeling Degree - A25450A

-Day and Evening

Program Sequence

FIRST 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 113	SGD Programming	3
SGD 116	Graphic Design Tools	3

SECOND SEMESTER

—	Math Elective	3
SGD 114	3D Modeling.....	3
SGD 117	Art for Games	3
SGD 163	SG Documentation	3
SGD 212	SGD Design II.....	3

THIRD SEMESTER

—	English Elective	3
—	HUM / FA Elective	3

FOURTH 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

FIFTH 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

SIXTH SEMESTER

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

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

English Electives

(Select 3 credit hours from the following courses)

ENG 112	Argument-Based Research.....	3
COM 120	Inro Interpersonal Comm	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 180	SGD HTML Programming I.....	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

*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

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
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COMPUTER TECHNOLOGIES

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

Graduation Requirements 73 Credit Hours

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

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	SG Character Development	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

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

COMPUTER TECHNOLOGIES

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
SGD 164	SG Audio/Video	3
— —	Elective I	3
— —	Elective II	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

Elective II

(Choose a Min of 3 Credit Hrs)

SGD 135	Serious 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 II	3
SGD 288	SGD Portfolio Design	2
WBL 112	Work Based Learning I	2

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 Modiling	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