

# COURSE CATALOG ADDENDUM: VERSION 1

**2020–2021**

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# Academic Information

## Degree Programs for the Academic Year 2020-2021

# Bachelor of Science in Computer Science and Game Design

[Updated: March 2020]

[Revised BSCS GD Degree Program. Updated Degree Requirements and Recommended Course Sequence.

Course sequence for MAT classes pushed back a semester to allow for a first semester pre-calculus class.

Changed two CS 200+ electives to STEM elective.

Changed CS 325 to a CS 200+ elective.

Changed the MAT/PHY elective to just a MAT elective.

ART/CG/MUS elective is more general.

Added MED to the HSS list.]

## Program Overview

The field of digital entertainment has grown from using small teams of just a handful of developers for an entire game to using large teams of one hundred or more on a single title. This large increase in the size of teams, scope, and investment in digital entertainment titles has naturally resulted in more and more specialization into the roles of engineer, artist, and designer. Despite this increased specialization overall, the digital entertainment industry has also seen a growing demand for a hybrid engineer/designer: someone who has strong programming and mathematics skills, combined with formal training in game design. This type of developer is the bridge between the scientific and creative sides of game development, able to work as an engineer or designer as needed.

Graduates of this program will be trained to write computer programs in core languages such as C and C++, giving them the technical foundation to become proficient in programming with scripting languages, game logic, user interfaces, artificial intelligence, and design tools. Graduates will also be able to design and implement game levels, game systems, and game behaviors. Graduates will have extensive experience testing, iterating, and polishing, through the completion of many individual projects and multiple team game projects.

Graduates of this degree program will be prepared to enter the video game industry as entry-level Software Engineers and Game Designers. Possible entry-level position titles include Software Engineer, Software Developer, Software Development Engineer, Software Development Engineer in Test, Software Analyst, Computer Programmer, Gameplay Programmer, Artificial Intelligence Programmer, User Interface Programmer, Tools Programmer, Game Scripter, Technical Designer, System Designer, Level Designer, Content Designer, Encounter Designer, and Game Designer. This degree program also includes secondary training that can contribute directly to a graduate obtaining positions with titles such as Producer, Program Manager, Technical Program Manager, and Technical Writer. After many years in the industry, graduates may obtain titles such as Lead Engineer, Lead Designer, Technical Director, Creative Director, and Director.

## Degree Requirements

### NUMBER OF CREDITS AND GPA

The Bachelor of Science in Computer Science and Game Design requires completion of at least 142 semester credits with a cumulative GPA of 2.0 or better. The program spans eight semesters of 15 weeks each, or four academic years.

### GRADE

Students must receive a grade of "C-" (or 1.7 quality points) or higher in all courses for the BS in Computer Science and Game Design major.

### COMPUTER SCIENCE

The following courses are required: CS 100, CS 120, CS 170, CS 180, CS 225, CS 230, CS 280, and CS 330. Nine additional credits must be selected from other Computer Science courses numbered 200 or higher.

### MATHEMATICS

The following courses are required: MAT 106, MAT 140, MAT 150 or MAT 180, MAT 200 or MAT 230, MAT 250, MAT 258. Three additional credits must be selected from other Mathematics courses numbered 200 or higher.

### PHYSICS

The following courses are required: PHY 200, PHY 200L, and PHY 250.

### STEM

Six credits must be selected from Computer Science, Computer Engineering, Mathematics, or Physics courses numbered 200 or higher.

### PROJECTS

The following courses are required: GAM 100 and GAM 150. 24 additional credits must be selected from other Game Project or Computer Science Project courses numbered 200 or higher.

### DESIGN

The following courses are required: DES 115, DES 212, DES 214, and DES 315. Six additional credits must be selected from Game Design courses numbered 200 or higher.

### HUMANITIES AND SOCIAL SCIENCES

The following courses are required: COM 150 and PSY 101. Three credits must be selected from Humanities and Social Sciences courses. Courses with the COL designation are excluded.

### ENGLISH

Six credits must be selected from English courses.

### ART, CG, OR MUSIC

Three credits must be selected from Art, Computer Graphics, or Music courses.

## GENERAL STUDIES

The following course is required: COL 101.

COM 150 (3), PSY 101 (3), two ENG electives (6), MAT 140 (4), MAT 150 or MAT 180 (4), MAT 200 or MAT 230 (4), PHY 200 (4), PHY 200L (1), PHY 250 (4), and one HSS elective (3).

## NOTE ON GENERAL EDUCATION COURSES

The following courses satisfy the general education requirement for the Bachelor of Science in Computer Science and Game Design:

# Recommended Course Sequence for the Bachelor of Science in Computer Science and Game Design

SEMESTER	COURSE	COURSE TITLE	CREDITS
<b>Semester 1</b>	GAM 100	Project Introduction	3
	CS 100	Computer Environment	4
	CS 120	High-Level Programming I: The C Programming Language	4
	MAT 106	Precalculus	3
	ENG 110*	Composition	3
	COL 101	College Life and Academic Skills	1
	<b>Semester Total</b>		<b>18</b>
<b>Semester 2</b>	GAM 150	Project I	3
	CS 170	High-Level Programming II: The C++ Programming Language	4
	CS 230	Game Implementation Techniques	3
	MAT 140	Linear Algebra and Geometry	4
	COM 150	Interpersonal and Work Communication	3
	<b>Semester Total</b>		<b>17</b>
<b>Semester 3</b>	GAM 200*	Project II	4
	CS 180	Operating System I, Man-Machine Interface	3
	CS 225	Advanced C/C++	3
	MAT 150*	Calculus and Analytic Geometry I	4
	DES 115	Introduction to Game Design	3
	<b>Semester Total</b>		<b>17</b>
<b>Semester 4</b>	GAM 250*	Project II	4
	CS 280	Data Structures	3
	MAT 200*	Calculus and Analytic Geometry II	4
	DES 212	System Design Methods	3
	PHY 200	Motion Dynamics	4
	PHY 200L	Motion Dynamics Lab	1
	<b>Semester Total</b>		<b>19</b>
<b>Semester 5</b>	GAM 300*	Project III	4
	CS 330	Algorithm Analysis	3
	CS 380*	Artificial Intelligence for Games	3
	MAT 258	Discrete Mathematics	3
	DES 214	Level Design Methods	3
	PHY 250	Waves, Optics, and Thermodynamics	4
	<b>Semester Total</b>		<b>20</b>

SEMESTER	COURSE	COURSE TITLE	CREDITS
<b>Semester 6</b>	GAM 350*	Project III	4
	CS 325*	User Interface and User Experience Design	3
	Computer Science Elective	Any three-credit Computer Science course numbered 200 or higher.	3
	DES 315	Technical Design Methods	3
	MAT 250	Linear Algebra	3
	PSY 101	Introduction to Psychology	3
	<b>Semester Total</b>		
<b>Semester 7</b>	GAM 375 or GAM 400*	Project III or Project IV	4
	STEM Elective	Computer Science, Computer Engineering, Mathematics, or Physics course numbered 200 or higher.	3
	Design Elective	Any three-credit Game Design course numbered 200 or higher.	3
	Math Elective	Any three-credit Mathematics course numbered 200 or higher.	3
	Art, CG, or Music Elective	Any three-credit Art, Computer Graphics, or Music course.	3
	<b>Semester Total</b>		
<b>Semester 8</b>	GAM 400 or GAM 450*	Project IV	4
	STEM Elective	Computer Science, Computer Engineering, Mathematics, or Physics course numbered 200 or higher.	3
	Design Elective	Any three-credit Game Design course numbered 200 or higher.	3
	English Elective	Any three-credit English course.	3
	Humanities and Social Sciences Elective	Any three-credit Humanities and Social Sciences course, except those with the COL designation.	3
	<b>Semester Total</b>		
<b>Degree Total (minimum credits required)</b>			<b>142</b>

\*Other courses may fulfill this requirement. See degree program requirements for details

# Bachelor of Arts in Game Design

[Updated: March 2020]

[Revised BAGD Degree Program. Updated Degree Requirements and Recommended Course Sequence. Replaced Interpersonal Requirement to Communications Requirement. COM 150 is now a required course. Included COM 150 in General Education Courses.]

## Program Overview

The field of interactive design has moved from an era where designers were self-taught and learned on the job, to one where even entry-level designers are expected to have proven design skills, as well as knowledge of technology, information processing, and psychology. Interactive designers must continually place themselves in the minds of their users and players, shaping every action and response, carefully teaching them what they need to know, and skillfully blending the interactive, spatial, narrative, visual, and aural aspects of an experience. Whether working on digital tools and simulations, on traditional or digital games, or even on physical installations, this degree program prepares graduates to be interactive designers, capable of working in large teams, communicating and collaborating with other designers, artists, and engineers, able to create any kind of interactive experience.

Graduates will be well-versed in both interactive design and game design theory, including user interface design, usability, spatial design, system design, and behavior design. Graduates will have extensive experience testing, iterating, and polishing both digital and non-digital designs through the completion of both individual and team projects. Graduates will also be familiar with the basics of psychology, programming, computer graphics, sound design, and writing.

## Student Outcomes

Upon completion of the Bachelor of Arts in Game Design degree program, students are expected to achieve the following outcomes:

- achieve basic proficiency in the concepts and skills of multiple design specialties: System Design, Level Design, Technical Design, Narrative Design, User Experience Design, and User Research
- apply knowledge of design principles and human psychology to create engaging experiences
- analyze and understand the needs of a given audience to create an engaging experience
- analyze problems and constraints to identify and define appropriate design solutions that demonstrate a balanced approach to the needs of different audiences
- demonstrate the ability to rapidly implement and test design prototypes as part of the iterative design process

- understand deeply how to measure and iteratively improve experiences for multiple audiences
- understand the professional, social, and ethical responsibilities of design
- communicate effectively and persuasively with a range of audiences
- function effectively on multidisciplinary teams to create engaging experiences
- use current techniques, skills, and tools to create effective designs
- recognize the need for ongoing professional development and demonstrate ability to research new topics and approaches
- demonstrate fluency in at least two different design specialties: System Design, Level Design, Technical Design, Narrative Design, User Experience Design, or User Research

Graduates of this degree program will be prepared to enter the software industry as entry-level User Experience Designers and the game industry as entry-level Game Designers. Possible entry-level position titles include User Interface Designer, User Experience Designer, Usability Researcher, Installation Designer, Game Scriptor, Technical Designer, System Designer, Level Designer, Content Designer, Encounter Designer, Quest Designer, and Game Designer. This degree program also includes secondary training that can contribute directly to a graduate obtaining positions with titles such as Producer, Program Manager, Writer, Technical Writer, and Editor. After many years in the industry, graduates may obtain titles such as Lead Designer, User Experience Architect, Creative Director, and Director.

## Degree Requirements

### NUMBER OF CREDITS AND GPA

The Bachelor of Arts in Game Design requires completion of at least 129 semester credits with a cumulative GPA of 2.0 or better. The program spans eight semesters of 15 weeks each, or four academic years.

### GRADE

Students must receive a grade of "C-" (or 1.7 quality points) or higher in all courses for the BA in Game Design degree program.

### DESIGN

The following courses are required: DES 100, DES 101, five of DES 220, DES 230, DES 240, DES 250, DES 260, or DES 270, two of DES 320, DES 330, DES 340, DES 350, DES 360, or DES 370, two of DES 420, DES 430, DES 440, DES 450, DES 460, or DES 470. 12 additional credits must be selected from Design courses numbered 200 or higher.

## PROJECTS

The following course is required: GAM 120 or GAM 150. 24 additional credits must be selected from Game Project or Computer Science Project courses numbered 200 or higher.

## PSYCHOLOGY

The following courses are required: PSY 101 and PSY 201. Three additional credits must be selected from Psychology courses.

## COMPUTER SCIENCE

The following course is required: CS 116 or CS 120. Seven additional credits must be selected from Computer Science courses numbered 150 or higher.

## MATHEMATICS

The following course is required: MAT 105.

## SCIENCE

Three credits must be selected from Physics or other natural science courses.

## ENGLISH

Six credits must be selected from English courses.

## HUMANITIES AND SOCIAL SCIENCES

Three credits must be selected from Humanities and Social Sciences courses.

## COMPUTER GRAPHICS

Six credits must be selected from Computer Graphics or Digital Arts courses.

## MUSIC

The following course is required: MUS 115.

## COMMUNICATIONS

The following course is required: COM 150.

## GENERAL STUDIES

The following courses are required: COL 101 and COL 235.

## SPECIALIZATION SUPPORT

Six credits must be selected from Mathematics, English, Film, Computer Graphics or Digital Arts, Computer Science, Art, Psychology, or Management courses.

## NOTE ON GENERAL EDUCATION COURSES

The following courses satisfy the general education requirement for the Bachelor of Arts in Game Design: COM 150 (3), MAT 105 (3), MUS 115 (3), PSY 101 (3), PSY 201 (3), three additional Psychology credits (3), three Science credits (3), six English credits (6), three Humanities or Social Science credits (3).

## Recommended Course Sequence for the Bachelor of Arts in Game Design

SEMESTER	COURSE	COURSE TITLE	CREDITS
Semester 1	DES 100	Introduction to Design Process	4
	DES 101	Principles of Interactive Design	4
	PSY 101	Introduction to Psychology	3
	CS 116*	Introduction to Computer Technology and Programming	4
	COL 101	College Life and Academic Skills	1
	<b>Semester Total</b>		
Semester 2	GAM 120*	Introduction to Digital Production	3
	DES 220/DES 240/ DES 260	Systems Design I, Level Design I, or User Experience Design I	3
	DES 250	Technical Design I	3
	ENG 116*	Storytelling	3
	MAT 105	Introductory Probability and Statistics	3
	<b>Semester Total</b>		
Semester 3	CG 102*	2D Raster Graphics for Designers	3
	CS 165*	Programming Foundations	4
	DES 270	User Research I	3
	DES 230	Narrative Design I	3
	GAM 200*	Project II	4
	<b>Semester Total</b>		



SEMESTER	COURSE	COURSE TITLE	CREDITS
<b>Semester 4</b>	COL 235	College Success for Designers	1
	DES 220/DES 240/ DES 260	Systems Design I, Level Design I, or User Experience Design I	3
	DES 220/DES 240/ DES 260	Systems Design I, Level Design I, or User Experience Design I	3
	GAM 250*	Project II	4
	PSY 201	Cognitive Psychology	3
	Computer Science Elective	Any three-credit Computer Science course numbered 150 or higher.	3
	<b>Semester Total</b>		
<b>Semester 5</b>	GAM 300*	Project III	4
	Design Specialization	System Design II, Narrative Design II, Level Design II, Technical Design II, User Experience Design II, or User Research II	3
	Design Elective	Any three-credit Design course numbered 200 or higher.	3
	MUS 115	Fundamentals of Music and Sound Design	3
	CG 125*	Introduction to 3D Production for Designers	3
<b>Semester Total</b>			<b>16</b>
<b>Semester 6</b>	GAM 350*	Project III	4
	Design Specialization	System Design II, Narrative Design II, Level Design II, Technical Design II, User Experience Design II, or User Research II	3
	DES Elective	Any three-credit Design course numbered 200 or higher.	3
	Specialization Support	Any three-credit course with the English, Mathematics, Psychology, Computer Science, Art, Computer Graphics or Management designation.	3
	PHY 115*	Introduction to Applied Math and Physics	3
<b>Semester Total</b>			<b>16</b>
<b>Semester 7</b>	GAM 375 or GAM 400*	Project III or Project IV	4
	DES Capstone	System Design Capstone, Narrative Design Capstone, Level Design Capstone, Technical Design Capstone, User Experience Design Capstone, or User Research Capstone.	3
	Design Elective	Any three-credit Design course numbered 200 or higher.	3
	Psychology Elective	Any three-credit Psychology course	3
	COM 150	Interpersonal and Work Communication	3
<b>Semester Total</b>			<b>16</b>
<b>Semester 8</b>	GAM 400 or GAM 450*	Project IV	4
	DES Capstone	System Design Capstone, Narrative Design Capstone, Level Design Capstone, Technical Design Capstone, User Experience Design Capstone, or User Research Capstone.	3
	English Elective	Any three-credit English course.	3
	Humanities and Social Sciences Elective	Any three-credit Humanities and Social Sciences course, except those with the COL designation.	3
	Specialization Support	Any three-credit course with the English, Mathematics, Psychology, Computer Science, Art, Computer Graphics or Management designation.	3
<b>Semester Total</b>			<b>16</b>
<b>Degree Total (minimum credits required)</b>			<b>129</b>

\*Note: Other courses may fulfill this requirement. See degree program requirements for details.

# Courses

## Department of Computer Science

### Computer Science Courses

[Updated: April 2020]

[Revised Course: Description updated, and prerequisites removed.]

#### CS 541 **Advanced Computer Graphics** (3 cr.)

Prerequisite(s): None

This course introduces fundamental algorithms and mathematical principles for implementing realistic three-dimensional computer graphics. Topics include homogeneous coordinates, 3D transformations, modern BRDF lighting and shading, shadow generation algorithms, reflections and the generation of reflection and bump/normal maps.

[Updated: April 2020]

[Revised Course: Description updated.]

#### CS 570 **Computer Imaging** (3 cr.)

Prerequisite(s): None

This course introduces image-processing methods and applications relevant to the development of real-time interactive simulations. The course covers fundamental concepts in image representation, image filtering, frequency domain processing, and image-based rendering methods. Topics include image serialization, 2D filtering, Fourier transforms, noise modeling, and high dynamic-range imaging.

[Updated: April 2020]

[Revised Course: Description and prerequisites updated.]

#### CS 571 **Advance Computer Imaging** (3 cr.)

Prerequisite(s): CS 570 or ECE 420

This course introduces the structure and implementation of the computer vision pipeline. Topics covered include image analysis, feature detection, Fourier transforms, pattern recognition, image stitching, and computational photography.

# Department of Digital Arts

## Computer Graphics Courses

[Updated: April 2020]

[Revised Course: Prerequisites removed.]

#### CG 102 **2D Raster Graphics for Designers** (3 Cr.)

Prerequisite(s):None

This course introduces the software and basic interface customization options and strategies in 2D raster graphics. Interface organization strategies, system components, bit depth, resolution, memory management, and output strategies are covered. The course also explores techniques and critical thinking skills for digital painting.

[Updated: April 2020]

[Revised Course: Prerequisites removed.]

#### CG 125 **Introduction to 3D Production for Designers** (3 Cr.)

Prerequisite(s):None

This course introduces game designers to the 3D production process. The course begins with the basics of interface organization strategies, equipment options, and production elements. The class also introduces techniques for texture mapping, modeling, rigging, lighting, cameras, and animation.

## Department of Electrical and Computer Engineering

### Electrical and Computer Engineering Courses

[Updated: April 2020]

[Revised Course: Reduced credits from 3 to 2.]

#### ECE 180 **Audio Concepts and Implementation** (2 Cr.)

Prerequisite(s):CS 100, CS 120

This course provides an introduction to audio concepts and implementation. Students are introduced to the basics of digital audio processing, digital sound synthesis, and sound perception. These concepts are reinforced through the lab projects, where students work with audio programming at the sample level.

# Department of Game Software Design and Production

## Design Courses

*[Updated: March 2020]*

*[Revised Course: This will become a required Freshman/Sophomore class once per year for BAGD as part of the specialization reformulation of the BAGD program.*

*Additional teaching resources will be freed up as part of the degree change to reduce long prerequisite series allowing us to not have to offer retake classes off the recommended course sequence (students can take this class again in their junior or senior year without delaying graduation).]*

### DES 230 **Narrative Design I** (3 cr.)

Prerequisite(s): DES 101 or DES 115 or DES116, and ENG 110 or ENG 116

This course introduces the principles of narrative theory and how it applies to and informs the design of an interactive experience. The course will explore both traditional and interactive storytelling structures and will study the elements of narrative design with a particular emphasis on narrative engagement through characters, environment, and pacing.

*[Updated: March 2020]*

*[New Course: This course is intended to replace GAT 240, and DES 301 or GAT 250.*

*This class provides a foundation in technical design for BAGD student.]*

### DES 250 **Technical Design I** (3 cr.)

Prerequisite(s): CS116 or CS 120, DES 100 or DES 115  
Credit may be received for only one of: DES 250, GAT 240.

This course introduces designers to the core components of modern game engines and technical design patterns for games. Topics include the design and implementation of character controllers, camera systems, and game state management.

# Department of Humanities and Social Sciences

## English Courses

*[Updated: April 2020]*

*[Revised Course: Removed ENG 115 and ENG 150 from list of prerequisites.]*

### ENG 243 **Epic Literature** (3 cr.)

Prerequisite(s): ENG 110 or ENG 116

This course provides an introduction to the epic as a genre, including poetry, drama, and novels. Particular attention is paid to the theme of heroism and its many cultural manifestations.

## Social Sciences Courses

*[Updated: April 2020]*

*[New Course]*

### SOS 210 **Diversity in the Workplace** (3 cr.)

Prerequisite(s): COM 150 or COM 250

This course examines diversity, equity, and inclusion in the workplace. Categories of diversity under examination include gender, LGBTQ identities, race, ethnicity, and disability. Current problems and solutions are discussed through case studies from various work environments, particularly STEM and the arts. Relevant civil rights legislation is also covered, including Title IX and the 1990 Americans with Disabilities Act.

# Department of Mathematics

## Mathematics Courses

*[Updated: March 2020]*

*[New Course: A precalculus class helps students who did not complete precalculus to get ready for calculus.]*

### MAT 106 **Precalculus** (3 cr.)

Prerequisite(s): None  
Credit may be received for only one of: MAT 100, MAT 106.

This course presents the mathematics needed for calculus including basic algebra; function domain and codomain; composition of functions; inverse functions; linear, polynomial,

exponential, logarithmic, and trigonometric functions; trigonometric identities; and graphs of trigonometric functions. Additional topics may include an introduction to vectors and matrices.

*[Updated: April 2020]*  
*[New Course]*

### **MAT 121 Mathematics of Digital Sound Processing (3 cr.)**

Prerequisite(s): MAT 120, CS 116

Credit may be received for only one of: MAT 121, MAT 320

This course explores further topics in the mathematical foundations of music and sound, with emphasis on digital signal processing. Topics include digital signals and sampling, spectral analysis and synthesis, convolution, filtering, sound synthesis, and physical modeling.

*[Updated: April 2020]*  
*[Revised Course: Description and prerequisites updated.]*

### **MAT 357 Numerical Analysis (3 cr.)**

Prerequisite(s): MAT 250 or (MAT 140 and MAT 258)

This course covers both the theoretical and practical study of numerical methods used in many areas of computer science, applied mathematics, science and engineering. Topics include: solutions of non-linear equations, interpolation, approximation of functions, quadrature rules, numerical solutions of ordinary differential equations, and numerical methods in linear algebra. Further topics may include Fourier series, wavelets, and stability theory.

*[Updated: April 2020]*  
*[New Course]*

### **MAT 367 Fuzzy Systems and Neural Networks (3 cr.)**

Prerequisite(s): MAT 258

Credit may be received for one of MAT 362 and MAT 367, but not both

This course introduces the basic theory of fuzzy sets and fuzzy logic, fuzzy systems, neural networks and neuro-fuzzy systems. Topics in Fuzzy Systems include: fuzzy sets and their operations, membership functions, fuzzy systems of various types, fuzzy control, and fuzzy clustering. Topics in Artificial Neural Networks include: artificial neural networks, the backpropagation algorithm, deep learning, adaptive neuro-fuzzy inference systems. Additional topics may include parameter selection and regularization for neural networks, and convolutional neural networks.

*[Updated: April 2020]*

*[Revised Course: Description updated. Prerequisites removed.]*

### **MAT 557 Numerical Analysis (3 cr.)**

Prerequisite(s): None

This course covers both the theoretical and practical study of numerical methods used in many areas of computer science, applied mathematics, science and engineering. Topics include: solutions of non-linear equations, interpolation, approximation of functions, quadrature rules, numerical solutions of ordinary differential equations, and numerical methods in linear algebra. Further topics may include Fourier series, wavelets, and stability theory.

*[Updated: April 2020]*  
*[New Course]*

### **MAT 567 Fuzzy Systems and Neural Networks (3 cr.)**

Prerequisite(s): None

Credit may be received for one of MAT 562 and MAT 567, but not both

This course introduces the basic theory of fuzzy sets and fuzzy logic, fuzzy systems, neural networks and neuro-fuzzy systems. Topics in Fuzzy Systems include: fuzzy sets and their operations, membership functions, fuzzy systems of various types, fuzzy control, and fuzzy clustering. Topics in Artificial Neural Networks include: artificial neural networks, the backpropagation algorithm, deep learning, adaptive neuro-fuzzy inference systems. Additional topics may include parameter selection and regularization for neural networks, and convolutional neural networks.

## **Department of Music**

### **Music Courses**

*[Updated: April 2020]*

*[Revised Course: Description updated, and removed the MUS 121 prerequisite. By removing MUS 121 as a prerequisite, students in all projects will be able to take MUS 160 as a MUS or Open Elective.]*

### **MUS 160 American Popular Music (3 cr.)**

Prerequisite(s): None

This course provides a survey of American Popular Music from the 19th Century to the current day. Topics may include

the interaction of European American, African American, and Latin American traditions; the influence of mass media and technology; and the role of popular music as a symbol of identity.

*[Updated: April 2020]*

*[Revised Course: Description revised to include non-game team projects. Increased credit from 1 to 2. Prerequisite changed from MUS 151 to MUS 240.]*

### **MUS 241 Sound Design Collaborative Project II (2 cr.)**

Prerequisite(s): MUS 240

This course consists of a collaborative sound design project with a team of students working on a game, animation, or other project. Evaluation of the contribution may come from faculty in several departments which oversee the team project.

*[Updated: April 2020]*

*[Revised Course: Description revised to include non-game team projects. Increased credit from 1 to 2. Prerequisite changed from MUS 251 to MUS 340.]*

### **MUS 341 Sound Design Collaborative Project IV (2 cr.)**

Prerequisite(s): MUS 340

This course consists of a collaborative sound design project with a team of students working on a game, animation, or other project. Evaluation of the contribution may come from faculty in several departments which oversee the team project.

*[Updated: April 2020]*

*[Revised Course: Description and prerequisites updated]*

### **MUS 360 Advanced Sound Synthesis (3 cr.)**

Prerequisite(s): MUS 251 OR MUS 371

This course explores the principles and applications of oscillators, filters, amplifiers, and envelope generators found in software and hardware sound synthesizers, from the perspective of the sound designer and audio content creator. Topics include the use of additive, subtractive, granular and modulation synthesis in music and sound design, as well as other techniques of producing sound using a computer, including practical applications and historical background.

# Withdrawal Policy

[Updated: April 2020]

[Revised: Additional grades and deadlines]

## Terms and Definitions

### S–SUSPENSION

“S” indicates a temporary separation, for a specific period of time (usually one calendar year), from the institution with the option of a possible future return. Initiated by the institution as a punitive action.

- In order for student to return at the end of the suspension, the student must reapply. This does not result in an automatic reinstatement.

### E–EXPULSION

“E” indicates a permanent separation from the institution, with no possibility of return. Initiated by the institution as a punitive action.

- Used only in the most serious cases (physical/sexual harm, property damage, cheating, etc.)

### W–WITHDRAWAL

“W” indicates a removal of student from a course or the institution, which may or may not allow for future readmission.

- Withdrawal from a course or courses equates to the grade of “W”.
  - » Does not affect cumulative GPA.
- Withdrawal from the institution equates to the status of “W”.

## Withdrawal Policy Deadlines

*(grades assigned for withdrawal from courses during semester)*

WITHDRAWAL FROM COURSES DURING THE SEMESTER	GRADE ASSIGNED ON TRANSCRIPT
Within 2 weeks (Add/Drop)	No grades recorded
From 15th day to 8th week	“W” grade
After 8th week	“F” grade

*Hardship Withdrawal and Military Orders Withdrawal will receive “W”.*

# Attendance and Excused Absence Policies

[Updated: April 2020]

[New Attendance Policies and Procedures]

## Attendance Policy

Attendance is recognized as an important component to the learning process in higher education. As an attendance-taking institution, DigiPen Institute of Technology is required, by Title IV federal regulations and the ACCSC accrediting body, to publish and enforce a policy of acceptable student attendance. The attendance policy must be consistently applied and enforced. Student class attendance is accurately recorded to ensure that all awarded federal aid monies are used for educational purposes, and to ensure that the required knowledge, skills, and competencies can be reasonably achieved.

- Students are expected to attend all classes in a timely manner.
- The instructor must list class tardy/absent guidelines in the syllabus, and mark student attendance accordingly.
- Students absent from all classes for a period of 14 consecutive days may be withdrawn from the Institute as of their last day of attendance.
  - » Unexcused Absences from any one class for 14 consecutive days may result in administrative withdrawal from that class, as of the last day of attendance.
  - » Consecutive absences are counted before and after holidays, as one continuous period. Holiday does not constitute a restart.
- Absences (unexcused/excused) should not exceed 20% of total required class sessions during any semester.
  - » Absences of more than 20% will require advising by the Student Success Advisor (SSA) or Disability Support Services (DSS), and may be required by the Instructor.

## Excused Absence Policy

- The Institute understands that there are circumstances which may substantiate reasons for absences.
- Excused absences cannot be approved for more than 14 consecutive calendar days without going through an appeal process.

- Students who miss a significant amount of their classes, may need to discuss alternative options (e.g. Incomplete, Course Withdrawal, Hardship Withdrawal) with the instructor and/or Student Success Advisor, if completing course outcomes is no longer attainable.
- Students missing class due to complications from a disability, or due to an illness or situation beyond the student's control, must inform the instructor as soon as reasonably possible.
  - » It is up to the Instructor's discretion to excuse the student and to require further written evidence substantiating the reason for the absence.
    - This decision must be documented and maintained by the instructor for compliance with regulatory requirements.
  - » It is strongly suggested that instructors contact DSS with questions related to accommodations and excused absence requests for documented disabilities.
  - » Flexibility in attendance does not mean that course outcomes are waived or altered.
  - » Attendance leniency accommodations may be implemented differently in each course, depending on how significant class attendance is considered, as a part of participatory learning in a particular class.