

# COURSE CATALOG ADDENDUM: VERSION 2

**2020–2021**

Published December 2020

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# Deadlines

*[Updated: October 2020]  
(Revised dates).*

- **September 10, 2020** *Friday*  
Last day to drop Fall 2020 semester courses for 100% refund.
- **January 14, 2021** *Friday*  
Last day to drop Spring 2021 semester courses for 100% refund.
- **May 13, 2021** *Friday*  
Last day to drop Summer 2021 semester courses for 100% refund. Automatic Withdrawal date from courses missing prerequisites.
- **September 9, 2021** *Friday*  
Last day to drop Fall 2021 semester courses for 100% refund.

# Bachelor of Science in Computer Science and Game Design

[Revised October 2020]

(Updated MAT 106 to 3 credits)

## 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.

## NOTE ON GENERAL EDUCATION COURSES

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

## 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>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>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>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>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>		

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

# Courses

## Department of Music

### Music Course

[Revised October 2020]

(New Course)

#### MUS 130 Introduction to Music Theory and Musicianship (3 cr.)

Prerequisite(s): None

Students cannot receive credit for both MUS 130 and MUS 120 or MUS 120L.

This course is an introduction to the elements of music, including study of the staff, clefs, key signatures, scales, time signatures, notation, meter and rhythm, intervals, major and minor chords, form, instrumentation, musical styles, music history, application of theory at the keyboard, and rhythmic, melodic, and harmonic ear training.

## Academic Suspension and Grade Appeals Processes

[Updated October 2020]

(Updated Academic Suspension and Grade Appeals Processes)

### Academic Suspension Appeals Process

1. Students must submit their academic withdrawal appeal within two business days from the time they receive their academic suspension email in their DigiPen email account. Failure to check the email account is not an acceptable reason to delay the academic suspension process or to receive an extension to the submission deadline.
2. Appeals must be sent to the Dean of Students (or designee). The email address for the Dean of Students (or designee) will be provided within the suspension email sent to the student's DigiPen email account.
3. To be considered for an appeal the student must explain, in writing, any extenuating circumstances beyond their control that impacted their academic performance during the semester that they did not meet the conditions of their academic warning.
4. The student's appeal will be reviewed by the Dean of Students (or designee) and a decision and response will

be sent to the student's DigiPen email account within one business day of the date the appeal was received.

5. If the appeal is denied, the student may appeal the decision in writing to the Dean of Faculty (or designee) for a final decision. The appeal to the Dean of Faculty must be received within two business days from receiving the previous decision. Failure to check their DigiPen email account is not an acceptable reason to delay the academic suspension process or to receive an extension to the submission deadline.

Appeals to the Dean of Faculty (or designee) must contain written documentation of:

- a. Information that was not known or available to the student during their first appeal with the Dean of Students (or designee). Failure to report information that was known or available to the student, but not provided to the Dean of Students (or designee) will not be accepted.
  - b. Information that shows a procedural error within the academic suspension appeal process that would have likely changed the outcome of the decision from the Dean of Students (or designee). Delay in the response to the first appeal by the Dean of Students (or designee), does not meet the criteria.
6. If the student's appeal meets the criteria and is accepted for review and decision, the Dean of Faculty (or designee) will respond to the appeal within two business days from the date the appeal was received. Decision from the Dean of Faculty (or designee) will be sent to the student's DigiPen email account. The Dean of Faculty (or designee) decision is final. Additional appeals will not be accepted.

7. The student's status will be updated as follows:
  - » If an appeal is granted, the student's status will be "Matriculated."
  - » If no appeal is made by submission deadline the student's status will be "Withdrawn," and the student will not be eligible for readmission for one academic year including the summer semester.
  - » If the final appeal is denied the student's status will be "Withdrawn," and the student will not be eligible for readmission for one academic year including the summer semester.

### Grade Appeal Process

1. Students who would like to dispute their final grade should first contact and discuss their concerns with the instructor of that course. If a satisfactory resolution is unattainable, the student may file a grade appeal.

2. Students must submit their grade appeal within two business days from the final grade posting date (typically the Tuesday after finals week). Failure to check grades until a later date is not an acceptable reason to delay the grade appeal process.
3. Appeals must be submitted to *academic.affairs@digipen.edu*. Appeals will be reviewed by the Dean of Faculty (or designee).
4. To be considered for an appeal the student must explain, in writing, any procedural error or omission that impacted their academic performance during the course such as substantiated bias or material deviation from established procedures.
5. The student's appeal will be reviewed by the Dean of Faculty (or designee) and a decision and response will be sent to the student's DigiPen email account within three business days of the date the appeal was received.
6. If the appeal is granted, the student's course grade will be updated. If the appeal is denied, the student's course grade will remain unchanged. The decision may also be remanded to the course instructor with additional direction

## Degree Plan Policy

[Updated October 2020]  
(New Degree Plan Policy)

### Policy

- Readmission applicants may apply to return to a valid DigiPen degree plan. The degree plan placement is decided by DIT and is not open to student choice.
- Change of major students may apply to switch majors into a valid DigiPen degree plan for the new major. The degree plan placement is decided by DIT and is not open to student choice.
- Degree Plan changes may sometimes be initiated by the Institute. Current students may be offered the option to change into a valid degree plan based on DIT recommendation. This recommendation must be agreed upon by the respective Program Director, the Registrar, the Director of Student Success, the Dean of Faculty, and the VP of Compliance and Regulatory Affairs.

### Procedure

**Readmission:** A student who wishes to return to DigiPen after a break in enrollment may apply to do so by completing a readmission application and submitting required materials. <https://www.digipen.edu/admissions/readmission/>. Students

must meet with their Student Success Advisor (Redmond) for advising and with the Office of the Registrar (all campuses) for a degree audit to verify valid degree plans eligible to the student. Program course waivers must be approved at this time. Students who are suspended due to academic or disciplinary reason may not return to the institution until the semester following the 12-month suspension period. Students may apply for readmission to their eligible semester as soon as the admission period for that semester opens and applicable materials are available for submission. DigiPen cannot guarantee readmission into a student's original degree plan due to limited availability of course offerings from previous degree curricula. The decision on degree plan is made by the institution and is not open to student choice.

**Change of Major:** A student may apply to switch degree programs through the Student Request module of SRS. Students must meet with their Student Success Advisor (Redmond) for advising, and with the Office of the Registrar (all campuses) for a degree audit to verify valid degree plans eligible to the student. Program course waivers must be approved at this time. The decision on degree plan is made by the institution and is not open to student choice.

**DigiPen Initiated Degree Plan Change:** DigiPen regularly reviews its programs for rigor and continued relevance to the industries. As such, DigiPen may determine that a more updated degree plan will be more beneficial to students in terms of program outcomes and occupational outlook. The degree plans for programs are reviewed by the respective Program Director, the Registrar, the Director of Student Success, the Dean of Faculty, and the VP of Compliance and Regulatory Affairs.

## Change of Major and Graduation

[Updated October 2020]  
(Revised: Removed \$100 graduation fee)

### Graduation Application Process

1. The student completes the Graduation Application and submits by the deadlines stated in the table above.