GAME PROGRAMMING, B.TECH.

Major Code: 3095

The Game Programming Bachelor of Technology degree is an experiential program in which students receive a grounding in software development with an emphasis on game programming. The program's purpose is to provide students with the necessary knowledge and experience to program video games and simulations for both entertainment and education. The skills taught through the program also are highly transferable to other types of software development. Students who complete the program will receive a Bachelor of Technology degree in Game Programming. Completion requires 120 semester hours of coursework, which includes a 12 semester-hour internship. The program can be completed in eight (8) semesters.

Student Learning Outcomes

Upon successful completion of this program, students will be able to:

- Create and animate three-dimensional (3D) objects.
- Create two dimensional (2D) and three dimensional (3D) games for players from various demographics.
- Design intuitive and accessible game interfaces aligned with industry guidelines and standards.
- Demonstrate programming skills using multiple languages, environments, and platforms.
- Analyze, design, and code software solutions within various development frameworks and project management methodologies.
- Manage source code using version control software.
- Publish a games portfolio online.
- Describe one form of artistic expression and its impact on the aesthetic quality of a game.

Curriculum Requirements

A minimum of 120 credits is required for degree completion.

Code	Title	Credits
Major Field Requirements		
CITA 110	Intro Information Technology	3
CITA 113	Intro to Game Design & Dev	3
CITA 140	Introduction to Programming	3
CITA 245	Intro to Database Concepts	3
CITA 212	Fundamentals of Game Design	3
CITA 214	Game Asset Creation	3
CITA 216	Introduction to 3D Modeling	3
CITA 225	Introduction to Data Structure	3
CITA 255	App Development	3
CITA 312	Intermediate Game Design	3
CITA 314	Extended Reality Game Program	3
CITA 355	Advanced App and Mobile Web Development	3
CITA 386	Game Interface Design	3
CITA 395	Internship Orientation Seminar	1
CITA 405	Project Management	3
CITA 412	Advanced Game Design & Applica	3
CITA 417	Game Engine Architecture	3
CITA 100-200 Lower Level Elective as advised		3
CITA 300-400 Upper Level Elective as advised		3
BSAD 116	Business Organization & Mgmnt	3
BSAD 300	Management Communications	3
ACCT, BSAD and/or CITA 300-400 Upper Level Electives as advised		6
CITA 480	Internship Information Tech	12
SUNY General Education & Liberal Arts and Sciences Requirements		
COMM 105	Research & Communication	3
MATH 149	Elementary Linear Algebra	3
HUMN 261	Games, World Build, Story	3
COMP 310	Advance Tech Communication	3
SUNY General Education Natural Sciences as advised		3
SUNY General Education Diversity, Equity, Inclusion and Social Justice as advised		3
SUNY General Education & Liberal Arts and Sciences credits as advised		12
General Electives as advised		11
Total Credits		**120**

Suggested Course Sequence

Course	Title	Credits
Year 1		
Fall		
CITA 110	Intro Information Technology	3
CITA 113	Intro to Game Design & Dev	3
CITA 140	Introduction to Programming	3
COMM 105	Research & Communication	3
SUNY General Education as advised		3
General Elective as advised		2
	Credits	**17**
Spring		
CITA 214	Game Asset Creation	3
MATH 149	Elementary Linear Algebra	3
SUNY General Education as advised		9
	Credits	**15**
Year 2		
Fall		
CITA 212	Fundamentals of Game Design	3
HUMN 261	Games, World Build, Story	3
100-200 CITA Lower Level Elective as advised		3
CITA 210	Visual Languages & Devel Tools	3
SUNY General Education as advised		3
	Credits	**15**
Spring		
CITA 216	Introduction to 3D Modeling	3
BSAD 116	Business Organization & Mgmnt	3
COMP 310	Advance Tech Communication	3
SUNY General Education as advised		3
CITA 225	Introduction to Data Structure	3
	Credits	**15**
Year 3		
Fall		
CITA 312	Intermediate Game Design	3
CITA 386	Game Interface Design	3
CITA 255	App Development	3
300-400 ACCT, BSAD or CITA Upper Level Electives as advised		3
General Elective as advised		3
	Credits	**15**

Spring		
CITA 314	Extended Reality Game Program	3
CITA 355 Advanced App and Mobile Web Development		3
300-400 CITA Upper Level Elective as advised		3
BSAD 300	Management Communications	3
300-400 ACCT, BSAD or CITA Upper Level Electives as advised		3
	Credits	**15**
Year 4		
Fall		
CITA 412	Advanced Game Design & Applica	3
CITA 395	Internship Orientation Seminar	1
CITA 405	Project Management	3
CITA 417	Game Engine Architecture	3
General Electives as advised		6
	Credits	**16**
Spring		
CITA 480	Internship Information Tech	12
	Credits	**12**
	Total Credits	**120**