

UAT-Online: Bachelor of Arts in Game Design

Program Description

Game Design students focus on the design principles, skills and techniques required to create mechanics, design documents and functioning prototypes for innovative game projects. Game Design students will be exposed to all the tools of the trade, as well as programming and asset creation skill sets. The coursework emphasizes design skills such as strong initial concepts, design documentation, game balancing and play-testing, interactive storytelling and interface design. Students in the Game Design program will also take a critical approach to the study of gameplay, player interaction and community dynamics as well as the unique features of the numerous game platforms available in the marketplace. In team-based projects, design students will work with artists and programmers to create complete projects. Applying all the elements of the game creation process, Game Design students will also develop the leadership skills to see projects through from initial concept to publisher-ready final product.

How UAT-Online Works

UAT-Online's Bachelor of Arts in Game Design program has been developed to give students the ability to focus 100% of their attention on each individual skill and class needed to become successful in this rapidly growing field. Classes are taken one at a time, and last five weeks each. Three classes will be taken each semester for a total of 15 weeks per semester. Courses are taken sequentially in order to build on the foundation of previous skills learned. This helps to increase overall understanding and comprehension of the material.

Objectives

- Prototype and build original games for multiple platforms, including complete documentation, prototypes and complete games using the full game production pipeline.
- Create and implement game elements, systems and play mechanics using industry-standard tools, techniques and production methods, including both art and scripting/programming applications.
- Develop critical analysis skills and master best practices of effective design through the study of games across platforms and genres.
- Establish leadership, communication and project management skills that emphasize collaboration by participating in team projects with students from other disciplines using industry-standard team and project techniques.
- Demonstrate high-level writing and analysis skills to promote the creation of clear, concise documentation and strong communication of design elements and mechanics to both programming and art team members.

University Core Courses

LAW3700	Legal Issues in Technology
PRO1030	Professional Skills Development
PRO2120	Student Innovation Project
PRO4830	Student Innovation Project & Portfolio Presentation
TCH1500	Technology and Society

TCH3010	Ethics in Technology
INT3500	Internship

General Education Courses

BIO1200	Introduction to Biology
COM2260	Communication in Technology
ENG1010	Composition I
ENG1020	Composition II
ENG3050	Mythology, Folklore and Fairy Tale
ENG3100	Science Fiction as Literature
HIS3050	20th Century Innovation
HIS3350	Ancient Greek Warfare
MAT1550	Math Appreciation
PSY3100	Social Psychology
PSY3600	Psychology of Creativity
TCH1150	Thinking Strategies

Major-Specific Courses

ART1030	Digital Asset Creation
ART1110	Communicating with Color & 2D Design
ART1210	Beginning Drawing
ART2360	Character Figure Drawing
CSC1020	Introduction to Programming
GAM1010	Introduction to Game Design
GAM1120	Introduction to Game Tools
GAM1700	Game Design Workshop I
GAM2150	Game Scripting
GAM2300	Level Design
GAM3300	Advanced Level Design
GAM3850	Casual Game Design
GAM4050	Applied Game Development
GAM4700	Advanced Gameplay Project

Elective Courses

GAM1750	Game Testing and Analysis
GAM2000	Critical Game Studies
GAM2350	Game AI Concepts
GAM2800	Rapid Game Prototyping
GAM3510	Writing for Interactive Games
GAM3700	Game Design Workshop II
HCI1010	Introduction to Human-Computer Interaction
MTM2150	Introduction to Interactivity

This list represents the combination of courses necessary for the degree. Course sequence and offerings may change due to software or other scheduling requirements. Students have choices of ways to fill their elective block of courses. It is recommended that students choose the elective in their chosen degree to get the most advanced curriculum in that degree program. Should students choose courses from other degree programs to fill their elective blocks, all pre-requisite requirements will be enforced and students will choose from the Major-Specific Courses, not the more advanced elective block, in the second degree listing. All choices outside of the original degree are subject to availability of the course in the schedule of offerings.



COURSE DESCRIPTIONS

University Core Courses

LAW3700 Legal Issues in Technology

This course addresses typical legal and business issues in the multimedia field. Rights granted under copyright, principles of fair use, trademarks, intellectual property law, trade secrets, unfair competition, disclosure and privacy laws are covered. Students explore these legal topics with focus on electronic media.

PRO1030 Professional Skills Development

Unlike traditional college introduction courses, students learn brain-based study strategies, how to think critically and how to problem-solve. Topics such as cyber bullying, analysis through different perspectives, leadership skills and emotional intelligence will be explored. Students will demonstrate their knowledge through graphic representations, discussion threads, and interactive discussions and debates in class. Through course activities and discourse, students will be exposed to a variety of critical and strategic thinking skills, which they will need to conduct their student innovation projects.

PRO2120 Student Innovation Project

In this course, students will explore potential topics for their innovation project. They will engage in a series of workshop-based exercises to explore their fields and employ discovery learning techniques to find background information on their selected subject. Students will form their ideas into a plan to be used as the basis for developing their innovation. In the process of exploring and sharing their work, students will engage the various types of innovations and demonstrate the ability to communicate their ideas to others.

PRO4830 Student Innovation Project and Portfolio Presentation

This course completes the innovation project and portfolio process providing guidance and structure for the formal presentation of the students' work. Students will passionately and clearly articulate their innovation and portfolio work through public presentations. Students entering this class are expected to have completed all works included in their portfolio and have their innovation brief completed.

TCH1500 Technology and Society

TCH1500 introduces students to essential elements of the historical, contemporary and possible future interdependencies of technology and society. These elements are discovered through readings, discussions and forecasts related to technological development. This course provides students with tools necessary to understand the role technology plays in society and to prepare students for interaction within a technology-driven world. Technology will be recognized as a driving force in cultural revolutions and as a foundational concept of human development. The course will consider rapidly changing technologies in modern society, the problems associated with these changes, and the effects of these technologies on modern culture.

TCH3010 Ethics in Technology

TCH3010 is designed to introduce students to essential concepts necessary to evaluate the ethical implications and potential impacts of the use of new technology within human society and culture. Students will explore modern ethical dilemmas in technology, looking at multiple aspects of how the introduction of technology redefines law and values.

INT3500 Internship

An internship is considered a supervised, practical experience that is the application of previously learned theory. Employers/sponsors work with the student to meet specific objectives and/or learning goals and provide special mentoring or networking opportunities. In exchange, the intern helps the employer/sponsor in meeting overall work goals for the agency/company. Students completing 3.0 credit internships must work a total of 150 hours, or 10 hours per week for 15 weeks.

General Education Courses

BIO1200 Introduction to Biology

This course explores the basic issues of living organisms. The material covered emphasizes molecular and organic biology, as well as the structure and function of plants and animals. Learning activities include lectures, group activities and various practical exercises that help students to better understand biology and to use their knowledge in everyday life, as well as in their future careers.

COM2260 Communication in Technology

Through the exploration of technology concepts, students will introduce, demonstrate, inform and/or persuade the audience. Effective use of voice, nonverbal skills and visuals will be applied to topics such as robotics, virtual reality, internet speech and privacy, and/or technology ethics. Presentations will be followed by student-led discussions and brainstorming sessions about each technology topic. The art of seeing pros and cons pertaining to controversial concepts will be explored through group discussions. And, students will have the opportunity to create a resume and be formally interviewed for a technology position.

ENG1010 Composition I

This course is designed to present effective techniques in organizing, developing and writing academic essays that reflect a collegiate level of writing. The purpose of this course is to help students write correctly, clearly

and thoughtfully. Students will receive an introduction to basic writing and reading skills required for success in college, with emphasis on fluency in personal, descriptive, argumentative and process analysis prose.

ENG1020 Composition II

ENG1020 is designed to introduce students to the essential language, theories and strategies of argumentation and research. The purpose of the course is to provide students with the tools necessary to develop arguments for specific audiences within specific rhetorical situations. Students will also develop their critical reading skills: analyzing, evaluating and critiquing the claims and evidence used by various authors. Finally, students will learn proper research skills and write an in-depth research essay/project.

ENG3050 Mythology, Fable and Fairy Tale

This course will explore various definitions of myth, compare and contrast various mythologies from around the world, and examine the ways myths have evolved over time. We will also study the mythological roots of the fairy tale, compare and contrast fairy tales from around the world, and explore how fairy tales have changed over time.

ENG3100 Science Fiction as Literature

A long time ago, in a galaxy not so far away, science fiction evolved from a variant pulp magazine topic to a literary genre in its own right. Students will study how this genre has evolved from the dark fantasy narratives of the 19th century through the start of the 21st century. Be immersed in novels and engage cutting-edge theories, and be prepared to write intelligently about the reading.

HIS3050 20th Century Innovation

This course examines the role of technology in the 20th century and how it affects us culturally. Key themes include invention of new technologies and debates over the advantages and drawbacks of industrialization, mass production and information technologies. Students participate in a variety of innovative activities designed to understand the changes that took place socially and economically because of these innovations.

HIS3350 Ancient Greek Warfare

This course covers the history and influences of Ancient Greek warfare. The time period and the topics for this course are the Peloponnesian Wars through Alexander's campaigns.

MAT1550 Mathematics Appreciation

This course is designed to introduce students to mathematical ideas that have an impact on the way they view the world. Mathematical concepts in the manner of a "great ideas" course will be discussed. However, the ideas to explore fall within the realm of mathematics.

PSY3100 Social Psychology

Why do people behave a certain way? Can behaviors be predicted, controlled and changed? Have you ever been a victim of somebody who took advantage or tried to manipulate? What are persuasion and brainwashing? This course explores theory, research and application that make up the discipline. It examines both the

traditional areas of the field, as well as more recent innovations. The course pays particular attention to the applications developed by social psychologists. The major goal of the course is to explicitly tie social psychology to lives of students.

PSY3600 Psychology of Creativity

What do Einstein, Picasso and Bill Gates have in common? What are inspiration, insight and improvisation? Are the Muses necessary or is there another way to develop imagination? Students can get answers to these and other questions in this highly interactive course. Discover the genius inside. This course provides a historical review of a variety of approaches to creativity. The material covered emphasizes psychological components of the creative process, the application of creativity in the writing process, the visual arts as well as music, leadership, problem solving and science, the preconditions for creativity and the general characteristics of creative people. Learning activities include practical activities and exercises that can be used to improve personal traits and attributes as well as enhance creative potential.

TCH1150 Thinking Strategies

TCH1150 will offer students a cross-disciplinary, project-oriented approach to applied thinking strategies as they may relate to technologists. Students will learn the logical basis, history, and potential for application of the following dimensions of thinking: critical, systems, creative, lateral, and parallel thinking. Assignments and projects will guide students toward an understanding of how thinking dimensions relate to their intended disciplines in emerging technology industries, as well as to their personal educational aspirations.

Major-Specific Courses

ART1030 Digital Asset Creation

This course is an overview of Adobe Photoshop and its application in creating assets for 3D visualization and collateral graphic materials. This course will cover asset creation from scratch as well as the process for using graphics in applications and on the web. The course will examine the basic tools needed to function and design assets.

ART1110 Communicating with Color & 2D Design

This course combines the application of color theory and introductory design principles. The function of traditional design principles incorporating color perception and color psychology give students a strong understanding of basic visual communication elements. Digital and traditional methods in design, color issues, and media manipulation are covered, along with designing for an ethnically diverse international audience.

ART1210 Beginning Drawing I

Is drawing a gift that has to come naturally? It is actually a skill like any other. This course will demonstrate how easily it can be learned. Drawing is as much about learning how to see and think about form and space as it is about technique. The drawing part itself is just marks on paper. Those marks come together to tell the viewer something about the world that the

artist experienced. Drawing also gives one a deeper understanding of the subject being captured. As students progress through the exercises in this class, they will develop a better understanding of the forms being observed and become more skillful in representing them. Improving drawing skills on paper can improve digital drawing skills. ART1210 is an introduction to basic drawing concepts and provides a basic foundation in drawing. The course emphasis will be on traditional compositional theory, drawing principles, fundamentals of observing and describing form. Students will gain a strong understanding of tonal and dimensional perspective.

ART2360 Character Figure Drawing

This course explores a full range of techniques and artistic viewpoints to animate drawings. Emphasis will be on learning to sketch the human and animal forms in both stick and geometric figures studies. Students will learn the skeletal and muscular makeup of the figures. Studies in the form of homework assignments will be required as well as in class work. Long and short poses will be interspersed with exercises specifically designed to allow artists to heighten perceptions. Students will practice using the formulas for making character sketches more realistic by understanding the volumetric description and underlying structure of the human form. This course provides the most thorough experience drawing from live models.

CSC1020 Introduction to Programming (3)

The purpose of this course is to introduce the fundamentals of computer science and programming to students majoring in this area. Students will become familiar with problem-solving techniques and algorithm development using computers, including a structured high-level programming language. Students will also explore object-oriented programming, including the design considerations and conventions used in development of object-oriented applications. Topics will include flow of control, assignment, arrays, functions, and input and output, among others.

GAM1010 Introduction to Game Design

Whether the goal is to become a game designer, artist or programmer, this course is a path into the world of video game production. Students will explore what career paths lay ahead in the respective areas of game development through an understanding of the game design process and develop awareness of the many positions within the game industry. By learning fundamental design and visualization techniques needed to express complex game ideas, students will apply professional documentation techniques to their projects. Students will also learn how to convert their own game-playing skills to tools used to analyze popular games and break down game play elements to discover what makes the greatest games tick.

GAM1120 Introduction to Game Tools

The purpose of this project-based course is to allow a student to explore game toolsets, SDK or "mod" environments and produce simple projects with a focus on learning the tool itself and its quirks, limitations and workarounds. Game development environments are often unfriendly, under development and design with the expert user in mind, and thus the ability to learn a new

tool quickly and adapt to nearly constant change is a core skill set for the game designer, artist or programmer.

GAM1700 Game Design Workshop I

This course explores the invention, revision and presentation of game design ideas in an atmosphere similar to a creative writing workshop. Students will work singly and in small groups to develop game ideas, compare and contrast them with published games and then create focused design documents for potential future production. The end product will be several robust, polished game designs that have been tested by the most critical audience—your peers.

GAM2150 Game Scripting

High-level scripting languages allow for rapid development, content creation and interactive events, and drive all of today's professional game engines and tools. Used for both game logic and automation of tools, scripting has become a crucial element of game production. Some scripting languages are so well integrated with a given game engine that users can create an entire game with script code. Students will learn one or more scripting languages during this course. Projects will include stand-alone script programs as well as game engine scripting projects.

GAM2300 Level Design

This project-oriented class involves producing game levels for a variety of 2D and 3D engines with a focus on pacing, risks vs rewards, designing for difficulty level and storytelling. Students will create and concept several projects and learn basics of geometry, texturing, lighting and interactive scripting as well as playtesting and optimizing for various engines and environments.

GAM3300 Advanced Level Design

Having mastered the basics, students in this course will apply level design principles to the creation of entire game environments, interactive elements and objects, storytelling through level design and texturing and lighting. The emphasis will be on using advanced game engines and their toolsets and may involve expert topics such as texturing with shaders, cut scenes, scripted events and large-scale environments.

GAM3850 Casual Game Design

Accessible, easy-to-play (but difficult-to-master) games are the bridge by which many customers enter the video game market, and an increasingly large pool of gamers make casual games their genre of choice. The casual game must be elementary in design but deep in execution; it must fit the genres and platforms of choice for casual gamers and give both the novice and the expert a memorable challenge. In this course we'll design, prototype and build casual games that move beyond Tetris and Solitaire clones and advance the genre as a whole.

GAM4050 Applied Game Development

This course concentrates on techniques to produce a game from the standpoint of production. Students will tackle topics such as people management, team building, communication and workflow in order to grasp the complexities of running a development team. Game

teams and projects continue to grow in size and complexity and it is essential to have an understanding of everything is involved in game development.

GAM4700 Advanced Gameplay Project

This comprehensive course brings Game Design, Game Programming, and Game Art and Animation majors together to synthesize the techniques and skills learned to create a fully realized gameplay project. This course is dedicated toward producing a high quality player experience. Students will set a development schedule and work toward meeting their goals. Aside from game production itself, quality communication and teamwork will be stressed throughout the course.

Elective Courses

GAM1750 Game Testing and Analysis

The best game design and technology will fail if bugs, glitches, difficulty and gameplay balance issues mar the final product. As games grow more complex, the role of the game tester has been elevated from entry-level peon to a vital role in the development process, and entire third-party companies are being formed for the outsourcing of game testing. In this course students will learn to analyze, troubleshoot, report and document problems with game technology, controls, balance and ease of use. With an emphasis on clarity, brevity and depth of analysis, students will beta-test student projects and commercial public betas and produce reports, analysis and suggestions for future improvements.

GAM2000 Critical Game Studies

This course is an introduction to advanced critical techniques and approaches to game design, analysis of games and game theory. Using techniques of critical theory, ludology and semiotics, students will explore the structure of games, interaction with the user and how games balance rules with freedom and risk with reward. The course will also delve into interface design, user control issues, data representation for the gamer and feedback loops. Present and future game genres will be examined and compared and contrasted among different platforms and styles of play.

GAM2350 Game AI Concepts

Artificial Intelligence is at the core of the modern interactive experience in video games. This course is a survey of the many approaches to creating realistic, interesting behavior from a design point of view, while experimenting with concepts such as pathfinding, sensory systems, flocking, scripted events, heuristics and genetic algorithms. Students will use a variety of tools to create functioning projects that demonstrate class concepts and study various game AI systems and theories.

GAM2800 Rapid Game Prototyping

In a fast-paced industry, prototypes are becoming the key to understanding and refining complex gameplay before committing to full-scale development. Students will create traditional paper prototypes as well as use industry standard tools to rapidly prototype and study several self-contained projects. The goal is to become adept at turning game ideas into practical game

mechanics and the foundations for future complete game projects.

GAM3510 Writing for Interactive Games

Writing for the interactive environments of current and future video games poses complex challenges that are unique to the field. As the consumer base grows more sophisticated, gamers are demanding complex, believable worlds in which their decisions have an impact. This course explores best practices for creating interactive stories, quests, characters and worlds that flesh out the bare mechanics of game design. Students will create interactive projects and design scenarios with dialog, branching choices, back-story elements and intellectual challenges, as well as look towards the future of game storytelling.

GAM3700 Game Design Workshop II (3)

This course adds prototyping and building to the creative, peer-driven design practiced in GAM1700. Students will workshop several designs and build playable versions of their game ideas in a rapid-development environment, with an emphasis on originality, playability and active revision to the design based on peer feedback.

HCI1010 Introduction to Human-Computer Interaction

This course will cover some of the core concepts in HCI relating to users and technology use. These include the notions of the interface, interactivity and interaction. Traditional ways of characterizing these aspects of the relationship between technology and users will also be examined in terms of various usability aspects.

MTM215 Introduction to Interactivity (3)

As viewers increasingly take on roles of active participants in new technologies, the need has arisen for the assessment of the scope of interactive processes in the multitude of media such as computers, cinema, TV and web technologies, and virtual reality. The course traces the development of new media from their historical perspectives to their possible future developments within the framework of interactivity, and how participants' roles are going to evolve as new technologies emerge. This course will explore the criteria of meaningful interactions and will give students a basis for developing immersive interactive experiences.