B.S. in Game Design and Interactive Media (GDIM)

Major Requirements, Sample Academic Plan, and Catalog Descriptions

GDIM Lower-division

A. Complete all:

- ☐ STATS 6 Introduction to Data Science
- ☐ GDIM 25 Game Design Fundamentals
- ☐ GDIM 27 Intermediate Game Design
- ☐ GDIM 31 Introduction to Programming for Games
- ☐ GDIM 32 Intermediate Programming for Games
- ☐ GDIM 33 Coding in Game Engines
- ☐ GDIM 41 Games and Society
- ☐ GDIM 49 Special Topics in Games and Society
- ☐ GDIM 51 Visual Design Fundamentals
- ☐ GDIM 53 Roleplaying and Improvisational Play
- ☐ GDIM 55 Storytelling for Interactive Media
- ☐ GDIM 61 Introduction to Game Development

GDIM Upper-division

A. Complete all:

- ☐ GDIM 129 Special Topics in Advanced Game Design
- ☐ GDIM 131 Data Analytics for Games and Interactive Media
- ☐ GDIM 161 Multiplayer Game Project
- ☐ GDIM 167A Capstone Game Project I
- ☐ GDIM 167B Capstone Game Project II

B. Select 1 of the following:

- ☐ GDIM 127 Professional Studio/Practicum
- ☐ GDIM 165 Games Entrepreneurship
- ☐ IN4MATX 151 Project Management

GDIM Electives: 15 Courses

A. Core Electives: 6 courses

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- Select 6 courses from the following:

  - ☐ GDIM 49 Special Topics in Games and Society

  - ☐ GDIM 127 Professional Studio/Practicum

  - ☐ GDIM 129 Special Topics in Advanced Game Design

  - ☐ GDIM 139 Special Topics in Game Programming

  - ☐ GDIM 159 Special Topics in Interactive Media Design

  - ☐ GDIM 163 Solo Game Project

  - ☐ GDIM 165 Games Entrepreneurship

  - ☐ I&C SCI 33 Intermediate Programming

  - ☐ IN4MATX 121 Software Design

  - ☐ IN4MATX 131 Human Computer Interaction

  - ☐ IN4MATX 132 Project in HCI Requirements and Evaluation

  - ☐ IN4MATX 133 User Interaction Software

  - ☐ IN4MATX 151 Project Management

  - ☐ IN4MATX 164 Children's Media and Learning

  - ☐ STATS 7: Basic Statistics

  - ☐ STATS 67. Introduction to Probability and Statistics for Computer Science

B. Open Electives: 9 Courses
- Requirements:
  - o Open electives may not overlap with major degree requirements.
  - o At least 6 courses must be upper-division level courses.
  - o Complete 9 elective courses from across the university (36 units)
- ☐ Elective 1
- ☐ Elective 2
- ☐ Elective 3
- ☐ Elective 4
- ☐ Elective 5
- ☐ Elective 6
- ☐ Elective 7
- ☐ Elective 8
- ☐ Elective 9

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Sample Program of Study—Game Design and Interactive Media

Freshman		
Fall	**Winter**	**Spring**
GDIM 41. Games and Society[1]	GDIM 53. Roleplaying and Improvisational Play	GDIM 61. Introduction to Game Development
GDIM 31. Intro to Programming for Games	GDIM 25. Game Design Fundamentals[2]	GDIM 32. Intermediate Programming for Games
GDIM 51. Visual Design Fundamentals	STATS 6[3]: Introduction to Data Science *(This course is currently ICS80 but will be listed as STATS 6 starting in Winter 2021)*	Open Elective
WRITING 39B. Critical Reading and Rhetoric		WRITING 39C. Argument and Research
Sophomore		
Fall	**Winter**	**Spring**
GDIM 55. Storytelling for Interactive Media	GDIM 27. Intermediate Game Design	GDIM 49. Special Topics in Games and Society
GDIM 33. Coding In Game Engines	Open Elective	Core Elective
Core Elective	GE III/VII Requirement	Open Elective
GE IV/VIII Requirement	GE IV Requirement	GE II Requirement
Junior		
Fall	**Winter**	**Spring**
GDIM 131. Data Analytics for Games and Interactive Media[3]	GDIM 129. Special Topics in Advanced Game Design	GDIM 161. Multiplayer Game Project
Core Elective	Open Elective	GDIM 127 or GDIM 165 or INF 151
GE VI Language Other Than English	GE II Requirement	Core Elective
Open Elective	U-D Writing	GE IV Requirement

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Senior		
Fall	**Winter**	**Spring**
GDIM 167A. Capstone Game Project I	GDIM 167B. Capstone Game Project II	Core Elective
Open Elective	Core Elective	Open Elective
GE III Requirement	Open Elective	Open Elective

1 Fulfills GE III.

2 Fulfills GE II.

3 Fulfills GE V.

NOTES:

1. Students are advised that this sample program lists the minimum requirements; it is possible that students may have to take additional courses to prepare for required courses.

2. The lower-division writing requirement must be completed by the end of the seventh quarter at UCI.

3. This is only a sample plan. Course offerings may be moved due to unforeseen circumstances. It is strongly recommended that students meet with an academic advisor to create an academic plan tailored to meet their specific areas of interest.

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Major Requirements, Sample Academic Plan, and Catalog Descriptions

Catalog Descriptions

Lower Division

STATS 6. Introduction to Data Science

Introduces the full data cycle. Topics include data collection and retrieval, data cleaning, exploratory analysis and visualization, introduction to statistical modeling and inference, and communicating findings. Applications include real data from wide-range of fields following reproducible practices.

GDIM 25. Game Design Fundamentals

Explore the fundamentals of game design through the design and play of simple analog game systems. Students explore the principles and usage of game design elements through hands-on projects emphasizing iteration and playtesting in a creative game design community.

GDIM 27. Intermediate Game Design

More advanced study of game design principles and systems design through the study of complex problems and play experiences. Topics include economies, game balancing, level design, prototyping, stat design, playtesting, and design documentation.

GDIM 31. Introduction to Programming for Games

Learn the fundamentals of programming for games through hands-on exercises in programming languages like C#, Processing, Visual Studio .NET and the Unity engine. Students will build several small game prototypes.

GDIM 32. Intermediate Programming for Games

Students advance their skills with game programming, building on existing skills developed in Introduction to Programming for Games. Hands-on projects emphasize general procedural and problem-solving skills, as well as furthering knowledge of C# and the Unity3D/Unreal game engines.

STAT

GDIM 33. Coding In Game Engines

This course introduces students to visual scripting tools in game engines in the context of game design, level, design, and experience design. Students gain fluency in one or more visual scripting languages.

B.S. in Game Design and Interactive Media (GDIM)
Major Requirements, Sample Academic Plan, and Catalog Descriptions

GDIM 41. Games and Society

The study and critical analysis of computer games as art objects, cultural artifacts, gateways to virtual worlds, educational aids, and tools for persuasion and social change. Emphasis on understanding games in their historical and cultural context.

GDIM 49. Special Topics in Games and Society

Studies in selected areas of games and their relationship to society. Topics addressed vary each quarter. Course may be repeated for credit. Topics may not be repeated.

GDIM 51. Visual Design Fundamentals

The principles, tools, and techniques of visual design for playable media. How do shape, line, color, composition, typography and time work together to communicate information, emotion, and meaning in interfaces, game worlds, and stories?

GDIM 53. Roleplaying and Improvisational Play

How do practices of performance, role-playing, and improvisation overlap with contemporary practices of game design? This course connects these forms of play to their contemporary uses within role-playing games, virtual worlds, and playable media more broadly.

GDIM 55. Storytelling for Interactive Media

The history, theory, and practice of interactive storytelling for games and other interactive media. Starting with the emergence of electronic literature and hypertext narratives, students encounter and experience a compressed history of this emergent form through play, analysis, and design.

GDIM 61. Introduction to Game Development

Introduction to the design and development of games. Includes core concepts in software development, team management, leadership, and project management.

STATS 7. Basic Statistics

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Introduces basic inferential statistics including confidence intervals and hypothesis testing on means and proportions, t-distribution, Chi Square, regression and correlation. F-distribution and nonparametric statistics included if time permits.

STATS 67. Introduction to Probability and Statistics for Computer Science

Introduction to the basic concepts of probability and statistics with discussion of applications to computer science.

Upper Division

GDIM 127. Professional Studio/Practicum

Professional skills are essential in today's competitive job market. This course covers interview techniques, resume building, professional networking, personal brand development, online portfolios and presentation.

GDIM 129. Special Topics in Advanced Game Design

Studies in selected areas of advanced game design. Topics addressed vary each quarter. Course may be repeated for credit. Topics may not be repeated.

GDIM 131. Data Analytics for Games and Interactive Media

Survey of analysis methods for understanding player data, including playtesting, telemetry data collection and analysis, metrics visualization, and its application in development and business.

GDIM 139. Special Topics in Game Programming

Studies in selected areas of game programming. Topics addressed vary each quarter. Course may be repeated for credit. Topics may not be repeated.

GDIM 159. Special Topics in Interactive Media Design

Studies in selected areas of interactive media and design. Topics addressed vary each quarter. Course may be repeated for credit. Topics may not be repeated.

B.S. in Game Design and Interactive Media (GDIM)

Major Requirements, Sample Academic Plan, and Catalog Descriptions

GDIM 161. Multiplayer Game Project

Design and develop a multiplayer game using Unity or similar engine, with a focus on learning to work in a development team, writing design documents, working with platform features and limitations, developing engaging mechanics, playtesting, and post-mortems.

GDIM 163. Solo Game Project

Students work on their own to design, develop, and playtest a small game from scratch, taking into consideration psychology, narrative, platform features and limitations, marketing, computer science capabilities, human-computer interface principles, industry trends, aesthetic judgment, and other factors.

GDIM 165. Games Entrepreneurship

As the audiences for games continue to diversify so have the channels for game publishing and monetization. Explore connections between the business and creative side of games in contexts like esports, education, indie game development, mobile apps, and AAA studios.

GDIM 167A. Capstone Game Project I

Students work in teams to design and implement a unique game or interactive experience. Emphasis on sound, art, and level design, building a community, production values, full utilization of hardware and software platform, and current industry trends.

GDIM 167B. Capstone Game Project II

Students work in teams to design and implement a unique game or interactive experience. Emphasis on sound, art, and level design, building a community, production values, full utilization of hardware and software platform, and current industry trends.

I&C SCI 33. Intermediate Programming

Intermediate-level language features and programming concepts for larger, more complex, higher-quality software. Functional programming, name spaces, modules, class protocols, inheritance, iterators, generators, operator overloading, reflection. Analysis of time and space efficiency.

IN4MATX 121. Software Design

B.S. in Game Design and Interactive Media (GDIM)

Major Requirements, Sample Academic Plan, and Catalog Descriptions

Introduction to application design: designing the overall functionality of a software application. Topics include general design theory, software design theory, and software architecture. Includes practice in designing and case studies of existing designs.

IN4MATX 131. Human Computer Interaction

Basic principles of human-computer interaction (HCI). Introduces students to user interface design techniques, design guidelines, and usability testing. Students gain the ability to design and evaluate user interfaces and become familiar with some of the outstanding research problems in HCI.

INF4MATX 132. Project in HCI Requirements and Evaluation

Students undertake significant projects in the elicitation and specification of HCI requirements and the thorough evaluation of user interfaces.

IN4MATX 133. User Interaction Software

Introduction to human-computer interaction programming. Emphasis on current tools, standards, methodologies for implementing effective interaction designs. Widget toolkits, Web interface programming, geo-spatial and map interfaces, mobile phone interfaces.

IN4MATX 151. Project Management

Introduces theoretical and practical aspects of project management. Topics include organizational theory, group behavior, project management skills, case studies, personal and group productivity tools, management of distributed work, stakeholders, consultants, and knowledge management. Students do a project exercise.

IN4MATX 164. Children's Media and Learning

This course focuses on how popular media may impact the ways in which young people learn, develop, and communicate by examining research related to the impacts of a wide range of popular media including television, video games, digital environments, mobile devices, and other forms of multimedia.