COMPUTER GAME DESIGN (GAME)

100 Level Courses
GAME 101: Introduction to Game Design. 3 credits.
Introductory overview of the game development process with an emphasis on game design. Through detailed study of historical and current games, students will learn the language and structure needed to develop their own game ideas. Students will learn the many aspects of a game development team and how each of these roles contributes to a game's overall design. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Mason Core: Arts
Schedule Type: Lecture

200 Level Courses
GAME 210: Basic Game Design. 3 credits.
Introduction to computer game design and development including a brief history of the field and current industry practice and production. Current major game design software, hardware, and associated tools are explored through simple game design projects. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Schedule Type: Lecture

GAME 230: History of Computer Game Design. 3 credits.
History of computer game design including games as a new medium for education, entertainment, and communications. Aspects of the business of computer game publishing, game criticism, storytelling, interactive fiction, violence, and virtual communities will be explored. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Schedule Type: Lecture

GAME 231: Computer Animation for Games. 3 credits.
2D and 3D modeling, character design, and animation projects are constructed using commercial and proprietary software and game design tool kits and engines. Simple texturing and models rigging for game animation will be discussed. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Registration Restrictions:
Required Prerequisites: GAME 210 and 230.
C Requires minimum grade of C.

Schedule Type: Studio

GAME 232: Online and Mobile Gaming. 3 credits.
Class covers the history, practice, and design of online and mobile games. Class will discuss the current state of the smartphone applications and study the best practices to be successful in the applications market. Students will learn the development process for smartphone applications and develop original and innovative applications in a team-based environment. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Registration Restrictions:
Required Prerequisites: GAME 210 and 230.
C Requires minimum grade of C.

Schedule Type: Lecture

GAME 250: Music for Film and Video. 3 credits.
Selection, editing, processing, and integration of sounds and music (post-production) for film, video, and animation. Time, frequency, and amplitude domain digital post-production techniques will be studied. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Schedule Type: Lecture

300 Level Courses
GAME 300: Portfolio Preparation. 1 credit.
Student creates and refines a web portfolio to utilize throughout the course of study in presenting projects to aid in internship application and professional development. Notes: Must have passed GAME 231 and GAME 232 with a C or better. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Schedule Type: Lecture

GAME 310: Game Design Studio. 3 credits.
Studio course that focuses on team-based game design. In collaboration with undergraduate students from VSITE's CS game design concentration, student teams design and develop complete computer-based and online serious and/or entertainment games. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Registration Restrictions:
Required Prerequisites: GAME 231 and 232.
C Requires minimum grade of C.

Schedule Type: Studio

GAME 320: Digital Painting for Games. 3 credits.
Students develop observational, sketching, and rendering skills in the digital medium. Students practice digital painting from reference and imagination as they create convincing game surfaces and simple concept drawings. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 231 AVT 323 or AVT 333.

Schedule Type: Lecture

GAME 330: Computer Game Platform Analysis. 3 credits.
Current and prototype consumer gaming platforms and consoles. Analysis will include conversion, transposition, and porting game media among most commercially produced platforms for analysis and comparisons. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 310 and CS 112.
Recommended Corequisite: GAME 331.

Schedule Type: Studio

GAME 331: Consumer Gaming Platform Analysis Lab. 1 credit.
Current and prototype consumer gaming platforms and consoles. Analysis will include conversion, transposition, and porting game media among most commercially produced platforms for analysis and comparisons. Offered by Coll Visual & Performing Arts. May not be repeated for credit.
Recommended Prerequisite: GAME 310 and CS 112.

Recommended Corequisite: GAME 330.

Schedule Type: Laboratory

GAME 332: RS: Story Design for Computer Games. 3 credits.
Use of narrative structure and new media for designing computer game scenarios and stories. Traditional narrative techniques (text stories, novels, films) will be examined, as well as translations of the traditional to interactive, non-linear modes of communications. Analysis of current computer game story design theories, philosophies, and techniques will be covered. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Specialized Designation: Research/Scholarship Intensive, Writing Intensive in the Major

Recommended Prerequisite: Completion of 30 credits within major or permission of the instructor.

Schedule Type: Lecture

GAME 367: Writing and Editing Music and Sound. 3 credits.
Composition, editing, processing, and integration of voice, environmental sounds and music into non-linear computer game environments. Special emphasis will be placed on HD sound and music post-production and mixing (3 & 5 transducer point listening spaces), sequential composition and sample-splicing techniques, and the study of competing compression algorithms for sound and music. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Registration Restrictions:
Required Prerequisite: GAME 250C.
C Requires minimum grade of C.

Schedule Type: Lecture

GAME 398: Advanced Game Design Animation. 3 credits.
Advanced 2D and 3D animation projects for interactive game scenes and scenarios are built using commercial and proprietary software and game design tool kits. Advanced texturing, rigging, lighting, and perspective manipulation will be covered. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Registration Restrictions:
Required Prerequisite: GAME 231C.
C Requires minimum grade of C.

Schedule Type: Studio

GAME 399: Special Topics. 1-4 credits.
In-depth presentation and exploration of topical studies in computer game design. Subject matter varies. Notes: May be repeated when topic is different. Offered by Coll Visual & Performing Arts. May be repeated within the term for a maximum 12 credits.

Schedule Type: Lecture

400 Level Courses

GAME 400: Game Design Practicum. 3 credits.
Studio/lecture course focuses on the design strengths and weaknesses inherent in current entertainment and serious games. UI design, level design and map structure, scoring stratum, on-line support, game ecologies, gaming communities, and designing/writing documentation and specifications will be studied. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 330, 367 or 398. Must be a Computer Game Design minor.

Schedule Type: Lecture

GAME 410: Advanced Game Design Studio. 3 credits.
In collaboration with undergraduate students from VSITE’s CS game design concentration, student teams design and develop complete computer-based and online serious and entertainment games. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 310, GAME 330 and GAME 331.

Schedule Type: Studio

GAME 431: Advanced Game Animation I. 3 credits.
Builds advanced 3D character animation skills. Students animate from reference using the principles of weight, follow through, and anticipation. Projects focus on creating interactive motions for characters using commercial software and game engines. Intermediate rigging will also be covered. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 398.

Schedule Type: Lecture

GAME 489: Pre-Internship Seminar. 1 credit.
Student prepares for interview and application processes associated with securing an internship, finishing the course with a professional resume and portfolio ready for submission to potential employers. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Schedule Type: Seminar

GAME 490: Senior Game Design Capstone. 3 credits.
Student develops a case study of a publicly or commercially published computer game exploring the technical, economic, ethical, social and political ramifications on its intended target market. A public lecture of the case study is required. Notes: Students are required to complete 6 credits for the degree program. Offered by Coll Visual & Performing Arts. May be repeated within the degree for a maximum 9 credits.

Mason Core: Capstone, Synthesis

Recommended Prerequisite: Completion of 60 credits in major. Students must be granted permission by the program director to take the course.

Registration Restrictions:
Enrollment is limited to students with a major in Computer Game Design.

Schedule Type: Lecture

GAME 491: Internship. 3-4 credits.
Placement in an appropriate internship within a program approved by a federal, state or commercial game design/publishing agency or firm. Notes: 135 hours of internship on-site work must be completed for 3 credits. 180 hours of internship on-site work must be complete for 4 credits. Offered by Coll Visual & Performing Arts. May be repeated within the degree for a maximum 9 credits.

Recommended Prerequisite: GAME 489 and completion of 60 credits in major.
Students in a Non-Degree Undergraduate degree may enroll.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level.

Graduate, Non-Degree or Senior Plus.

Enrollment limited to students with a class of Advanced to Candidacy, or permission of instructor.

Recommended Prerequisite: Admittance to MA Game Design Program or instructor permission.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, or permission of instructor.

Recommended Prerequisite: Admittance to MA Game Design Program or instructor permission.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 605: Game Design Graduate Seminar. 1 credit.
Students present their own research and projects, or the work of contemporary game designers for discussion and peer and faculty critiques. Special focus on developing professional public communication and presentation skills about contemporary issues in the game design and production fields. Offered by Coll Visual & Performing Arts. May be repeated within the degree for a maximum 4 credits.

Recommended Prerequisite: Admittance to MA Game Design Program or instructor permission.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 610: Game Production. 3 credits.
Studio and lecture course in the history, practice and design and production of computer games with an emphasis on serious games development. Students will research, design and develop a fully functioning game, for desktop, console, and/or mobile platforms in this two-semester course. This course will also support the thesis research and project development. Offered by Coll Visual & Performing Arts. May be repeated within the degree for a maximum 6 credits.

Recommended Prerequisite: Admittance to the MA Game Design Program or permission of instructor.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 617: Teaching Practicum. 3 credits.
Supervised classroom teaching in Mason’s Computer Game Design undergraduate program, or summer Game-focused Potomac Academy Program. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 605 and 3 credits of GAME 610.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 700: Research Methodologies in Game Design. 3 credits.
Graduate seminar focusing on development of independent research project in student’s area of emphasis. Explores principal methods of researching and documenting game design and game practice. Along with traditional methods of library research, emphasizes new processes of examination and investigation through the use of computer-aided research clouds and systems. Students will research and write a publishable paper following standard scientific research practice. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: Admittance to MA Game Design Program or instructor permission.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.
GAME 626: Game Business, Entrepreneurship and Practice. 3 credits.
Combined lecture and studio course in discovering and developing entrepreneurial skills sets in the game design, production and publishing industry. Special focus will be given to developing communication skills, planning strategies, and nurturing the aptitude and attitudes that enable students to creatively solve problems, identify opportunities, and execute those opportunities in the game design and production industry. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 605 and GAME 610.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 628: Advanced Game Art. 3 credits.
Studio and Lecture course in advanced computer game modeling processes and techniques. Advanced topics in modeling interactive characters and environments will be covered, including texture painting, photosourcing, and both low and high-polygon modeling. A broad variety of art styles and game production pipelines will be explored. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: Admittance to MA Game Design Program or permission of instructor.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 630: Advanced Game Animation. 3 credits.
Combined Studio and Lecture course in creating advanced animations for interactive games, with an emphasis on realtime characters. Non-bipedal motions, rotoscoping, rigging, and other advanced topics in animation will also be explored. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: Admittance to the MA Game Design Program or permission of instructor.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 635: Issues in Interactive Entertainment. 3 credits.
Studio and lecture course in advanced design concepts for interactive game and entertainment platforms and systems. Microsoft’s Kinect, Nintendo’s Wii U, and Apple’s AirPlay Mirroring will be studied. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 600, GAME 605 and 3 credits of GAME 610.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 638: Game Studio Management. 3 credits.
Lecture Courses in managerial responsibilities and issues concerning successfully managing a small to mid-size game design studio in today’s game industry marketplace. Human resources and personnel management, investor relations and board management, contract negotiations and development analysis, game design and production team oversight, research and development, budget management and realistic financial projections will be covered. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 610 and GAME 626.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 650: Advanced Music and Sound for Games. 3 credits.
Combined studio and lecture course that will focus on the composition, editing, processing, mixing, and integration of sound assets, such as sfx, narration, and music into computer games. Time, frequency, and amplitude domain digital production and post-production techniques will be reviewed. Standard 2-channel, and 5.1 channel post-production/mixing, as well as contemporary middleware sound management applications will be studied. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: Admittance to the MA Game Design Program or permission of instructor.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture
GAME 658: Interactive Game Systems Design. 3 credits.
Studio and lecture course in advanced interactive games and simulations. A variety of entertainment platforms, systems, and their unique input devices will be explored, including augmented reality, social networks, and motion controllers. Games developed will use the latest online, mobile, and console platforms, as well as non-commercial prototype platforms. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 635.

Registration Restrictions:
Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Non Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

700 Level Courses

GAME 710: Graduate Internship. 3 credits.
This course prepares students to succeed in the game design industry by assisting their placement in an appropriate internship within a program approved public or commercial game design/publishing agency or firm. A total of 180 hours of internship on-site work must be earned within the semester of registration. Each student is assigned a program internship coordinator, and an on-site internship supervisor. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: GAME 610 and GAME 617 and permission of Program Director.

Registration Restrictions:
Enrollment is limited to Graduate or Non-Degree level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Internship

GAME 796: Directed Reading. 1 credit.
Directed Reading must be taken in the fall of year two. Prior to the end of the first year, each student must identify a faculty member, based on interest and chosen topic that will serve as the student’s faculty mentor for the thesis research and writing, or project development process. Students should also plan to devote the summer between the two academic years of study to focused preliminary reading and research for the thesis paper or project. Notes: Directed Reading is overseen by the chosen faculty mentor, and will be tailored to each student’s original thesis research paper or project. Offered by Coll Visual & Performing Arts. May be repeated within the degree for a maximum 3 credits.

Recommended Prerequisite: GAME 600 and GAME 605.

Registration Restrictions:
Enrollment is limited to Graduate or Non-Degree level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 797: Proposal Writing. 1 credit.
Proposal Writing is overseen by the chosen faculty mentor, and will be tailored to each student’s original thesis research paper or project. Prior to the end of the first year, each student must identify a faculty member, based on interest and chosen topic that will serve as the student’s faculty mentor for the Proposal Writing course to prepare for the thesis writing, or project development process. Offered by Coll Visual & Performing Arts. May be repeated within the degree for a maximum 6 credits.

Recommended Prerequisite: GAME 796.

Registration Restrictions:
Enrollment is limited to Graduate or Non-Degree level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Lecture

GAME 798: Project and Applied Research. 3 credits.
The research project and supporting written document must reflect original research, development, and production of a complete serious game for graduate level work. The graduate project will involve a study of historical practice, and suitable for a public viewing experience and presentation. The written component will support the evolution of the creative process, the historical context of the work, the intended purpose and intent, all supported with scholarly citations and references. Faculty mentors will guide the project development process. Offered by Coll Visual & Performing Arts. May be repeated within the degree for a maximum 9 credits.

Recommended Prerequisite: Permission of Graduate Faculty Mentor.

Registration Restrictions:
Enrollment is limited to Graduate or Non-Degree level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Thesis

GAME 799: Thesis. 4 credits.
The thesis project and or written document must reflect original research, analysis, and writing appropriate for graduate level work. The thesis written document should be between 85 to 100 pages in length, following university library standards of format for graduate thesis. If a thesis project is chosen, the project should compose a complete game design document, a completed and QA tested functional game using a commercially available engine, and a public presentation. Faculty mentors will guide the thesis development process for each student. Offered by Coll Visual & Performing Arts. May not be repeated for credit.

Recommended Prerequisite: Permission of Graduate Faculty Mentor.

Registration Restrictions:
Enrollment is limited to Graduate or Non-Degree level students.

Students in a Non-Degree Undergraduate degree may not enroll.

Schedule Type: Thesis