

COMPUTER GAMES AND SIMULATION DESIGN (CGSD)

CGSD 120, INTRODUCTION TO COMPUTER GAMES & SIMULATIONS 3 (4)

This is a basic course for students interested in designing, programming and developing computer games and simulations. Topics will include basic game/simulation design, programming and development, as well as the role of the game/simulation designer, programmer and developer. Students will be introduced to programming using a game engine. The students will use provided or leverage their own created assets and create a small introductory game or games using existing game engine software. Laboratory required. (A special fee will be assessed.)

General Education: GE01, GE02, GE03, GE04, GE06, GE08

Typically Offered: Fall and Spring Semesters

CGSD 121, 2D GAME PROGRAMMING 3 (4)

This is a basic course for students interested in designing, programming and developing computer 2D games using a game engine. This course will build on CGSD 120 adding program scripting and programming concepts, as well as the roles of the game/simulation designer, programmer and developer. The students will use provided or leverage their own created assets and create small introductory games using Torque, a commercial game engine. Laboratory required. (A special fee will be assessed.)

General Education: GE02, GE03, GE06, GE08

Course Entry Requirement(s): Prerequisite: CGSD 120 and CMPR 166

Typically Offered: Spring Semester

CGSD 130, GAME APPLICATIONS FOR EMERGENT PLATFORMS 3 (4)

This is a course for programming games and simulations on Android and iOS devices. Students in the course will learn how to use visual objects for the above mentioned mobile platforms. In this course, visual objects will be made to move according to different gravity or elasticity of game or simulation environment (bounce, rotations, translations, acceleration). The sensors of the mobile device (i.e. accelerometer and magnetometer) will constitute an input for some of these visual object movements. The course assumes that students know general programming concepts learned from the pre-requisites. Students will spend time utilizing both PC/Android and Mac/iOS devices. An Android tablet, an Android smartphone, an iPad2 and iPhone will be available for testing during class. The mobile devices are not required from the students in order to take the course.

General Education: GE02

Course Entry Requirement(s): Prerequisite: CMPR 166; Corequisite: MTHM 171

Typically Offered: Spring Semester

CGSD 222, 3D GAME LEVEL DESIGN 3 (5)

This course covers computer game level design. Students learn the techniques used in creating level designs for games including creation and optimization of the terrain map, structure design, lighting, triggers of game code, texturing and shadowing. Laboratory required. (A special fee will be assessed.)

General Education: GE01, GE02, GE03, GE06, GE08

Course Entry Requirement(s): Prerequisite: CGSD 121 or division approval

Typically Offered: Spring Semester

CGSD 271, DIGITAL IMAGING 3 (6)

An introduction to the use of raster and vector-based digital tools in the acquisition, manipulation, and production of image-based visual art for traditional and new media applications. Students will gain hands-on experience with industry-standard hardware and software tools for the production of both screen-based (internet, mobile, and gaming) as well as print-based (design, fine arts) imaging contexts involving creative expression. Laboratory required. (A special fee will be assessed.)(CTAG)

General Education: GE01, GE03, GE04, GE06

Typically Offered: Spring Semester

CGSD 272, DIGITAL ILLUSTRATION 3 (6)

A focus on communication ideas through visual expression using vector-based software applications. Course emphasis is on concept art development for narrative and conceptual themes; including animation, comic books, gaming, children's books and product design. Students will be expected to engage in the exploration of technique, creative process and the development of personal styles while meeting strict deadlines. Laboratory required. (A special fee will be assessed.)(CTAG)

General Education: GE01, GE02, GE03, GE06

Typically Offered: Spring Semester

CGSD 276, 3-D MODELING AND ANIMATIONS 3 (6)

This class is an exploration of three dimensional modeling and animation. Students will be introduced to select software that produce vector and fractal based objects. The computer will be used to create and/or modify primitives, apply surface textures, control lighting, and camera position. The students will learn how to animate the resulting objects and create environments. The class will expand their understanding of the computer's potential as a creative tool. (A special fee will be assessed.) This course is cross-listed as ARTS 276 and CGSD 276. (CTAG)

General Education: GE01, GE03, GE04, GE06

Typically Offered: Fall and Spring Semesters