COMPUTER ANIMATION AND GAME DEVELOPMENT BS

More Information

E-advising Tools

Students are encouraged to use the interactive e-advising tools that have been designed to help them graduate within four years. These tools can be accessed through the Student Center.

The Bachelor of Science in Computer Animation and Game Development is designed to teach the skills necessary to succeed in a career in game development, animation, or CGI/VFX. Within the degree are two options, one in animation production and one in game development, which provide instruction and practice in the specific skill sets, tools, and techniques used in those industries.

The option in animation production. Students learn the core components of production, from conceptualization to end product, as well as industry pipelines, workflows, and more. Beyond core coursework this option offers two course groupings, allowing students to focus on either 3D animation or computer-generated imagery (CGI). Our animation production alumni are employed at entertainment companies around the world, including Disney, Pixar, Sony Imageworks, Weta Digital, and more.

The option in game development. Students learn the fundamentals of game development, including level design, game scripting, and production. Students also learn and practice game development workflow, rapid prototyping, agile development, and industry-standard tools. Game development alumni are employed at game companies including Epic Games, 2K, Ubisoft, Blizzard, and more.

Grading Requirement

All courses taken to fulfill program course requirements must be taken for a letter grade except those courses specified by the department as credit/no credit grading only.

A grade of C- or higher is required in all Computer Animation and Game Development (CAGD) courses required for the major.

Course Requirements for the Major: 69 units

Completion of the following courses, or their approved transfer equivalents, is required of all candidates for this degree. Courses in this program may complete more than one graduation requirement.

For the Computer Animation and Game Development (CAGD) degree, students must successfully complete the four lower-division core CAGD courses with a C- or higher prior to taking any upper-division CAGD courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAGD 110</td>
<td>Computer-Assisted Art I</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 112</td>
<td>Virtual and Physical Cameras Applications</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 180</td>
<td>Scripting and Programming for Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 230</td>
<td>Digital Modeling</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 320</td>
<td>Digital Texturing</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

- CAGD 489 Industry Internship
- CAGD 499 Special Problems

Interdisciplinary Program Requirements

Select 15 units from the following:

- ARTH 110 Art History Survey: Prehistory to Medieval
- ARTH 120 Art History Survey: Renaissance to 1800
- ARTH 130 Art History Survey: 1800 to the Present
- ARTS 122 2D Design
- ARTS 123 3D Design
- ARTS 125 Basic Drawing
- ARTS 126 Basic Life Drawing
- ARTS 227 Introduction to Painting
- ARTS 260 Introduction to Ceramics
- ARTS 325 Intermediate Ideation Drawing
- ARTS 326 Intermediate Life Drawing
- ARTS 325 Advanced Ideation Drawing
- ARTS 326 Advanced Life Drawing
- CSCI 111 Programming and Algorithms I
- CSCI 211 Programming and Algorithms II
- CSCI 311 Algorithms and Data Structures
- CSCI 430 Software Engineering
- CSCI 566 Computer Graphics Programming
- CSCI 580 Artificial Intelligence
- KINE 524 Biomechanical Analysis
- MADT 103W Writing for Screen Media (W)
- MADT 141 Media Aesthetics
- MADT 216 Introduction to Digital Audio in Media
- MADT 222 Basic Web Design
- MADT 261 Foundations of Electronic Media
- MADT 266 Field Video Production
- MADT 283 Digital Fundamentals
- MADT 314 Rich Internet Media Design I
- MADT 322 Advanced Web Design
- MADT 433 Human Factors
- MADT 466 Studio Video Production
- MADT 468 Video Production Workshop
- THEA 112 Introduction to Acting

Major Option

Select one of the following options:

- Animation Production (p. 2)
- Game Development (p. 2)

Total Units 69

Major Option Course Requirements

Students must select one of the following options for completion of the major course requirements.
The Option in Game Development: 33 units

<table>
<thead>
<tr>
<th>Course</th>
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<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAGD 117</td>
<td>Concept Design and Storyboarding</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 240</td>
<td>Digital Animation</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 250</td>
<td>Introduction to Technical CGI</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 345W</td>
<td>Advanced Animation Pre-Production and Story Development (W)</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 493</td>
<td>Senior Portfolio</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 495</td>
<td>Advanced Production</td>
<td>3</td>
</tr>
</tbody>
</table>

Technical Selections
Select two of the following: 6
- CAGD 325 Motion Capture
- CAGD 340 Computer Animation
- CAGD 374W Interactive Storytelling in Video Games
- CAGD 432 3-D Character Rigging
- CAGD 441 3-D Character Animation

The Option in Animation Production: 33 units

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<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Foundation</td>
<td></td>
<td></td>
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<tr>
<td>CAGD 170</td>
<td>Video Game Design</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 270</td>
<td>Level Design</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 280</td>
<td>Introduction to Game Scripting</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 370</td>
<td>Video Game Development</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 373</td>
<td>Game Asset Production</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 374W</td>
<td>Interactive Storytelling in Video Games</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 375W</td>
<td>Video Game Pre-Production</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 377</td>
<td>Mobile Game Development</td>
<td>3</td>
</tr>
<tr>
<td>CAGD 470</td>
<td>Video Game Production</td>
<td>3</td>
</tr>
</tbody>
</table>

Technical Selections
Select two of the following: 6
- CAGD 325 Motion Capture
- CAGD 330 3-D Computer Modeling
- CAGD 331 3-D Character Modeling
- CAGD 350 3D Scanning
- CAGD 373 Game Asset Production
- CAGD 420 Digital Lighting and Texturing

Total Units 33

Electives Requirement
To complete the total units required for the bachelor's degree, select additional elective courses from the total University offerings. You should consult with an advisor regarding the selection of courses which will provide breadth to your University experience and possibly apply to a supportive second major or minor.

Honors in the Major

Honors in the Major is a program of independent work in your major. It requires six units of honors coursework completed over two semesters.

The Honors in the Major program allows you to work closely with a faculty mentor in your area of interest on an original performance or research project. This year-long collaboration allows you to work in your field at a professional level and culminates in a public presentation of your work. Students sometimes take their projects beyond the University for submission in professional journals, presentation at conferences, or academic competition. Such experience is valuable for graduate school and professional life. Your honors work will be recognized at your graduation, on your permanent transcripts, and on your diploma. It is often accompanied by letters of commendation from your mentor in the department or the department chair.

Some common features of Honors in the Major program are:

- You must take six units of Honors in the Major coursework. All six units are honors courses (marked by a suffix of H), and at least three of these units are independent study (399H, 499H, 599H) as specified by your department. You must complete each course with a minimum grade of B.
- You must have completed 9 units of upper-division coursework or 21 overall units in your major before you can be admitted to Honors in the Major. Check the requirements for your major carefully, as there may be specific courses that must be included in these units.
- Your cumulative GPA should be at least 3.5 or within the top 5% of majors in your department.
- Your GPA in your major should be at least 3.5 or within the top 5% of majors in your department.
- Most students apply for or are invited to participate in Honors in the Major during the second semester of their junior year. Then they complete the six units of coursework over the two semesters of their senior year.
- Your honors work culminates with a public presentation of your honors project.

Honors in the Major is not part of the Honors Program. Each department administers its own program. Please contact your major department or major advisor to apply.

In addition to the common requirements for the Honors in the Major program given above, the Honors in Computer Animation and Game Development program includes the following:

1. You must be recommended by a faculty member.
2. To complete the Honors in Computer Animation and Game Development program, you must complete two semesters of CAGD 499H with minimum grades of B. You must define a research problem or performance area and develop a Honors Research Project/Thesis proposal approved by your major advisor and completed by the end of your second semester of CAGD 499H. You must maintain an overall GPA of at least 3.0 and must make a public presentation of the results of your Honors project.
3. Each Honors in the Major class requires completion of the course plus an additional Honors project and culminates with a public presentation of your Honors project.

See Bachelor's Degree Requirements (https://catalog.csuchico.edu/undergraduate-requirements/bachelors-degree-requirements/) for complete details on general degree requirements. A minimum of 39 units, including those required for the major, must be upper division.

**General Education Requirements: 48 units**

See General Education (https://catalog.csuchico.edu/colleges-departments/undergraduate-education/general-education/) and the Class Schedule (http://www.csuchico.edu/schedule/) for the most current information on General Education Requirements and course offerings.

**Diversity Course Requirements: 6 units**

You must complete a minimum of two courses that focus primarily on cultural diversity. At least one course must be in US Diversity (USD) and at least one in Global Cultures (GC). See Diversity Requirements (https://catalog.csuchico.edu/undergraduate-requirements/diversity-requirements/) for a full list of courses. Most courses taken to satisfy these requirements may also apply to General Education (https://catalog.csuchico.edu/colleges-departments/undergraduate-education/general-education/).

**Upper-Division Writing Requirement**

Writing Across the Curriculum (EM 17-009 (http://www.csuchico.edu/prs/EMs/2017/17-009.shtml/)) is a graduation requirement and may be demonstrated through satisfactory completion of four Writing (W) courses, two of which are designated by the major department. See Mathematics/Quantitative Reasoning and Writing Requirements (https://catalog.csuchico.edu/undergraduate-requirements/mathematicsquantitative-reasoning-writing-requirements/) for more details on the four courses. The first of the major designated Writing (W) courses is listed below.

- Any upper-division Writing (W) course.

The second major-designated Writing course is the Graduation Writing Assessment Requirement (GW) (EO 665 (https://calstate.policystat.com/policy/9585618/latest/)). Students must earn a C- or higher to receive GW credit. The GE Written Communication (A2) (https://catalog.csuchico.edu/colleges-departments/undergraduate-education/general-education/#A2) requirement must be completed before a student is permitted to register for a GW course.