

Computer Simulation and Game Development

Associate of Applied Science Degree

Associate of Applied Science Degree Option -
Computer Simulation and Game Development: Art Option

Purpose To prepare students for entry-level positions in the simulation and game development industries or to transfer to a four-year school for additional education.

Learning Outcomes The student who successfully completes all Computer Simulation and Game Development requirements will:

- create computer simulations or games using industry standard development tools.
- design, program, test, debug and document computer simulation or game programs using a variety of current tools and technologies.
- develop programming knowledge and skills with a current commercial programming language.
- develop skills and knowledge in computer animation using industry standard tools.
- learn mathematical concepts related to simulation and game development and use those concepts in class projects.
- use appropriate library and information resources to research simulation and game development issues, programming tools and technologies and to support lifelong technical learning.

Cooperative Education (Co-op) Co-op is a required and important part of the Computer Simulation and Game Development Degree program. It provides relevant field experience that integrates theory and practice while providing opportunities to develop skills, explore career options, and network with professionals and employers in the computer programming field. Contact Gerry Meenaghan, Cooperative Education Coordinator, Bldg. 19, Rm. 231A, 541.463.5883.

Job Openings Projected through 2020

Lane County openings - 11 annually

Statewide openings - 170 annually

Lane County average hourly - \$30.31; average annual - \$63,046

Oregon average hourly - \$38.26; average annual - \$79,570

Costs Estimate based on 2017-18 tuition and fees. Consult Lane's website for updated tuition.

Books	\$1,468
Computers/Internet Service	\$1,500
Program Specific Fees.....	\$208
Resident Tuition and General Student Fees.....	\$12,320

Total Estimated Cost \$15,496

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Course Requirements

- Prerequisites are required for some courses. See course descriptions.
- All courses must be completed for a letter grade of C-, except for the Writing, Math, PE/Health, and Human Relations requirements and CS 206 which may be completed with a 'Pass' grade.
- Second Year Requirements - A personal laptop is required for second-year students in the degree program. If you receive financial aid, some of those funds may be used for this purchase. Please contact the Program Lead for options and system requirements.

First Year	Fall
CIS 100 Computing Careers Exploration	1
CIS 125G Software Tools 1: Game Development.....	4
CS 161C+ Computer Science 1	4
Directed Elective	3
Directed Elective	3
	Winter
Choice of :	
MTH112 Trigonometry	
MTH251 Calculus 1	
MTH231 Discrete Mathematics 1.....	4 - 5
FA 221 Computer Animation.....	4
CS 162C+ Computer Science 2	4
ART 245 Drawing for Media.....	4
	Spring
CS 233N Intermediate Programming C#	4
CIS 126 Game Design: Principles and Practices.....	4
FA 222 Computer Animation 2.....	4
Directed Elective	3
	Fall
Second Year	
CS 260 Data Structures 1	4
CS 206 Co-op Ed: Computer Information Technology Seminar	2
WR121 Academic Composition or WR121_H	
Academic Composition	4
PE/Health Requirement	3
CIS 135G Software Tools 2: Game Development.....	4
	Winter
CS 246 System Design	4
Communication Requirement	4
Choice of:	
WR 227 Technical Writing	
FA 261 Writing for Interactive Design.....	3
Choice of:	
CS 235AM Intermediate Mobile App Dev: Android	
CS 235IM Intermediate Mobile App Dev: IOS.....	4
	Spring
CG 203 Human Relations at Work.....	3
Directed Elective	3
CS 280GD Co-op Ed: Computer Simulation & Game Development.....	3
CS 297 Programming Capstone	4
Directed Electives	
ART 117 Basic Design: 3-Dimensional.....	3
ART 234 Drawing: Figure	3
ART 293 Sculpture: Figure	3
MUL 119 Introduction to Animation	3
MUL 223 Digital Sculpting and Texture	3
MUL 103 Time-Based Tools.....	4
AUD 120 Audio Production	4
MUS 118 Music Technology MIDI/Audio 1	4
MUS 119 Music Technology MIDI/Audio 2.....	4
CS 133N Beginning Programming: C#.....	4
CS 234N Advanced Programming: C#	4
CS 133P Beginning Programming: Python.....	4
CS 233P Intermediate Programming: Python	4

Computer Simulation and Game Development

Computer Simulation and Game Development: Art Option

Offered by the Computer Information Technology

Associate of Applied Science Degree Option

Program Coordinator Jim Bailey, Bldg. 19, Rm. 146, 541.463.3148, baileyj@lanecc.edu

Purpose Students completing the Computer Simulation and Game Development: Art Option will be prepared for positions working as artists for computer game development companies. Their skills will be general enough that they can also get jobs in animation or as graphic artists.

Learning Outcomes The student who successfully completes all Computer Simulation and Game Development: Art Option requirements will:

- create computer simulations or games using industry-standard development tools.
- become proficient in developing and applying effective visual design and production strategies for creating concept art, 3D models, and animations, for business, education, and entertainment industries.
- understand the concepts, potential, and implications of communicating ideas using interactive media technologies.
- develop skills and knowledge in computer animation using industry-standard tools.
- design, create, and test state machines to control animations for simulation or game programs using a variety of industry-standard tools and technologies.
- use appropriate library and information resources to research simulation and game development issues, to design tools and technologies, and to support lifelong technical learning.

Cooperative Education (Co-op) Co-op is a required and important part of this program. It provides relevant field experience that integrates theory and practice while providing opportunities to develop skills, explore career options, and network with professionals and employers in the computer programming field. Contact Gerry Meenaghan, Cooperative Education Coordinator, Bldg. 19, Rm. 231A, 541.463.5883.

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Costs Estimate based on 2017-18 tuition and fees. Consult Lane's website for updated tuition.

Books	\$1,345
Computers/Internet Service	\$1,500
Program Specific Fees.....	\$208
Resident Tuition and General Student Fees.....	\$10,726
Total Estimated Cost \$13,779	

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Course Requirements

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- All courses must be completed for a letter grade of C-, except for the Communications, Writing, Math, PE/Health, and Human Relations requirements and CS 206 which may be completed with a 'Pass' grade.

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First Year	Fall
Choice of:	
MTH 060 Beginning Algebra	4
MTH 065 Elementary Algebra	4
MTH 070 Introductory Algebra	4
MTH 095 Intermediate Algebra	4
MTH 111 College Algebra or any 200 level or higher Mathematics course	4
ART 131 Introduction to Drawing	3
ART 216 Digital Design Tools	3
WR 121 Academic Composition or higher.....	4
Winter	
CIS 100 Computing Careers Exploration	1
MUL 212 Digital Imaging	4
FA 221 Computer Animation.....	4
ART 286 Sculpting for Animators.....	3
PE/Health Requirement	3
Spring	
CIS 125G Software Tools 1: Game Development.....	4
CIS 126 Game Design: Principles and Practices.....	4
ART 245 Drawing for Media.....	4
FA 222 Computer Animation 2.....	4
Second Year	
Fall	
Directed Elective	3
CIS 135G Software Tools 2: Game Development.....	4
ART 116 Basic Design: Color	3
CS 206 Co-op Ed: Computer Information Technology Seminar	2
CG 203 Human Relations at Work.....	3
Winter	
Directed Elective	3
Directed Elective	3
Choice of:	
WR 227 Technical Writing	3
FA 261 Writing for Interactive Design.....	3
MUL 223 Digital Sculpting and Texture	4
CS 246 System Design	4
Spring	
Directed Elective	3
CS 280GD Co-op Ed: Computer Simulation & Game Development.....	3
MUL 208 Motion Capture for Animation	4
CS 297 Programming Capstone	4
Directed Electives	
ART 117 Basic Design: 3-Dimensional.....	3
ART 234 Drawing: Figure	3
ART 293 Sculpture: Figure	3
MUL 223 Digital Sculpting and Texture	3
MUL 119 Introduction to Animation	3
MUL 103 Time-Based Tools.....	4
AUD 120 Audio Production	4
(Taught Elsewhere)	
MUS 118 Music Technology MIDI/Audio 1	4
MUS 119 Music Technology MIDI/Audio 2.....	4
CS 133N Beginning Programming: C#.....	4
CS 233N Intermediate Programming C#	4
CS 234N Advanced Programming: C#	4
CS 133P Beginning Programming: Python.....	4
CS 233P Intermediate Programming: Python	4

To request this information in an alternate format please contact the Center for Accessible Resources at (541) 463-5150 or accessibleresources@lanecc.edu.