

# Bachelor of Science in Computer Game Design and Development

Catalog Year: 2016



Total Degree Credit hours: 120

## General Education Requirements (See KSU Catalog for Prerequisites)

## Area F Requirements

|     |                                 |   |  |
|-----|---------------------------------|---|--|
| A-1 | <b>ENGL 1101</b> Composition I  | 3 |  |
|     | <b>ENGL 1102</b> Composition II | 3 |  |
| A-2 | <b>MATH 1113</b> Pre-Calculus   | 3 |  |

### Area A: Essential Skills (9 credit hours)

Must complete this area within first 30 credit hours.

|     |                                               |   |  |
|-----|-----------------------------------------------|---|--|
| B-1 | <b>ECON 1000</b> Contemporary Economic Issues | 2 |  |
| B-2 | <b>COM 1100</b> Human Communication           | 3 |  |

### Area B: Institutional Options (5 credit hours)

|     |                                                                |   |  |
|-----|----------------------------------------------------------------|---|--|
| C-1 | <b>ENGL 2000-level</b> Approved Literature                     | 3 |  |
| C-2 | <b>ART/DANC/MUSI/TPS 1107</b><br>Arts and Culture of the World | 3 |  |

### Area C: Humanities/Arts (6 credit hours)

Choose one course from both groups.

|     |                                                           |   |  |
|-----|-----------------------------------------------------------|---|--|
| D-1 | <b>MATH 1190</b> Calculus I                               | 4 |  |
| D-2 | <b>CHEM 1211/L, PHYS 1111/L, PHYS 2211/L, BIOL 1107/L</b> | 8 |  |
|     | <b>CHEM 1212/L, PHYS 1112/L, PHYS 2212/L, BIOL 1108/L</b> |   |  |

### Area D: Science, Math & Technology (12 credit hours)

Physics is a recommended science sequence. "L" denotes accompanying lab course. Credit cannot be counted for PHYS 1111 (trig based) and PHYS 2211 (calc based), only take 1. PHYS 2212 requires MATH 2202 as prerequisite.

*Chem 1211/L is a pre/corequisite of BIOL 1107/L.*

|     |                                                 |   |  |
|-----|-------------------------------------------------|---|--|
| E-1 | <b>POLS 1101</b> American Government            | 3 |  |
| E-2 | <b>HIST 2111/2112</b> US History                | 3 |  |
| E-3 | <b>HIST 1100/1111/1112</b> World History        | 3 |  |
| E-4 | <b>STS 1101</b> Science, Technology and Society | 3 |  |

### Area E: Social Sciences (12 credit hours)

Choose one course from each group for requirements E-2 and E-3.

|                         |                    |   |  |
|-------------------------|--------------------|---|--|
| KSU 1101/1111/1121/1200 | First Year Seminar | 3 |  |
|-------------------------|--------------------|---|--|

|                    |                                                         |                      |   |  |
|--------------------|---------------------------------------------------------|----------------------|---|--|
| F-1                | <b>CSE 1301</b><br>Programming and Problem Solving I    | No Prerequisite      | 4 |  |
| F-2                | <b>CSE 1302</b><br>Programming and Problem Solving II   | CSE 1301             | 4 |  |
| F-3                | <b>CSE 2300</b> Discrete Structures OR                  | CSE 1301 & MATH 1113 | 3 |  |
|                    | <b>MATH 2345</b><br>Discrete Math                       | MATH 1113            |   |  |
| F-4                | <b>MATH 2332</b> Intro to Probability and Data Analysis | MATH 1190            | 3 |  |
| F-5                | <b>CGDD 2002</b><br>Fundamentals of Game Design         | No Prerequisite      | 3 |  |
| 1 hour from Area D |                                                         |                      |   |  |

Note: Students must have a C or better in all Area A courses, Area D courses, and Area F courses.

## Upper Division Major Courses

|                                                        | Prerequisites                            |    |  |
|--------------------------------------------------------|------------------------------------------|----|--|
| <b>CSE 3801</b> Professional Practices and Ethics      | CSE 1302                                 | 2  |  |
| <b>CS 3304</b> Data Structures                         | CSE 1302 +<br>(MATH 2345 or<br>CSE 2300) | 4  |  |
| <b>CS 4306</b> Algorithm Analysis                      | CS 3304                                  | 3  |  |
| <b>CS 4242</b> Artificial Intelligence                 | CS 3304                                  | 3  |  |
| <b>CS 4722</b> Computer Graphics and Multimedia        | CS 3304                                  | 3  |  |
| <b>SWE 3313</b> Introduction to Software Engineering   | CSE 1302                                 | 3  |  |
| <b>SWE 3643</b> Software Testing and Quality Assurance | SWE 3313                                 | 3  |  |
| <b>SWE 4324</b> User-Centered Design                   | CSE 1302                                 | 4  |  |
| <b>CGDD3103</b> Application Extension and Scripting    | CGDD 2002<br>+ CSE 1302                  | 3  |  |
| <b>CGDD4003</b> Digital Media and Interaction          | CGDD 3103 +<br>SWE 3643+<br>CS 3304      | 3  |  |
| <b>CGDD4203</b> Mobile and Casual Game Development     | CGDD 4003                                | 3  |  |
| <b>CGDD4303</b> Educational and Serious Game Design    | CGDD 4003                                | 3  |  |
| <b>CGDD4803</b> Studio                                 | CGDD 4003                                | 3  |  |
| <b>CGDD4814</b> Capstone                               | CGDD 4803                                | 4  |  |
| <b>Free Electives</b>                                  | Varies                                   | 6  |  |
| <b>Concentration – See Right (Pick 1)</b>              | Varies                                   | 9+ |  |

\* CS 3501 Computer Org & Arch and CS 3502 (Operating Systems) should be taken as elective prior to the courses in the Distributed-Mobile concentration and the Simulations-Informatics concentration

\*\* MGT 4185 (Technology Management) & MGT 4122 (Venture Analysis) in addition to MGT 3100 as a pre-requisite, also require Permission from the Coles College of Business

Note: Students can define their own custom upper-level concentration under the guidance and approval of their CGDD advisor. This approval of a custom concentration must be granted prior to beginning the courses in the concentration.

Students must have a C or better in all Upper Division Major courses and Upper Level Concentration courses.

## Upper-Level Concentration (Pick 1)

| Media-Production                                   |           |   |  |
|----------------------------------------------------|-----------|---|--|
| <b>MATH 3312</b> Linear Algebra                    | MATH 1190 | 4 |  |
| <b>CGDD 4113</b> 3D Modeling and Animation         | CS 3304   | 3 |  |
| <b>CGDD 4603</b> Production Pipeline and Rendering | CS 4722   | 3 |  |

| Distributed-Mobile *                               |          |   |  |
|----------------------------------------------------|----------|---|--|
| <b>SWE 3683</b> Embedded Systems Analysis & Design | CS 3502* | 3 |  |
| <b>CS 4504</b> Distributed Computing               | CS 3502* | 3 |  |
| <b>CS 4622</b> Computer Networks                   | CS 3501* | 3 |  |

| Educational-Serious                                                 |                                                     |   |  |
|---------------------------------------------------------------------|-----------------------------------------------------|---|--|
| <b>TCOM</b> Two Approved Courses                                    | Varies                                              | 6 |  |
| <b>CGDD 4313</b> Designing Online Learning Content and Environments | TCOM 3030<br>or other<br>approved<br>TCOM<br>course | 3 |  |

| Planning-Management (pick 3)                     |                                          |   |  |
|--------------------------------------------------|------------------------------------------|---|--|
| <b>MGT 3100</b> Management and Behavior Sciences | No<br>Prerequisite                       | 3 |  |
| <b>MGT 4185</b> Technology Management            | MGT 3100 **                              | 3 |  |
| <b>MGT 4120</b> Venture Management               | MGT 3100 **                              | 3 |  |
| <b>MGT 4121</b> Entrepreneurship and Creativity  | Department<br>Permission                 | 3 |  |
| <b>SWE 3623</b> Software Systems Requirements    | SWE 3313 +<br>(MATH 2345<br>or CSE 2300) | 3 |  |
| <b>SWE 4663</b> Software Project Management      | SWE 3313 &<br>MATH 2332                  | 3 |  |

| Simulations-Informatics (pick 3)                         |                          |   |  |
|----------------------------------------------------------|--------------------------|---|--|
| <b>CSE 3153</b> Database Systems                         | CSE 1302                 | 3 |  |
| <b>CS 4504</b> Distributed Computing                     | CS 3502*                 | 3 |  |
| <b>CGDD 4703</b> Data Modeling and Simulation            | MATH 2332                | 3 |  |
| <b>CS 4999</b> Special Topics in Modeling and Simulation | Department<br>Permission | 3 |  |