

Fayetteville Technical Community College

Detailed Assessment Report 2015-2016 Simulation and Game Development

As of: 8/08/2016 08:48 AM EST

Mission / Purpose

The Simulation and Game Development curriculum provides a broad background in simulation and game development with practical applications in creative arts, visual arts, audio/video technology, creative writing, modeling, design, programming and management.

Students will receive hands-on training in design, 3D modeling, and programming for the purpose of creating simulations and games.

Graduates should qualify for employment as designers, artists, animators, programmers, testers, quality assurance analysts, engineers and administrators in the entertainment industry, health care, education, corporate training, and government organizations.

Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Reporting Findings, and Action Plans

SLO 1: Apply Knowledge of 3D Digital Art Techniques

Face-to-face students will apply accumulated knowledge of 3D digital art techniques to the creation of a human game/simulation character in [SGD 214- 3D modeling II]. In this process, students will demonstrate mastery of form and invoke aesthetic principles through the use of 3D digital art software.

Relevant Associations:

General Education/Core Curriculum Associations

- 4 Demonstrate quantitative competencies.
- 5 Demonstrate computer literacy.

Institutional Goals Associations

- 1 Respond to student and community needs through measurable goals.
- 4 Focus on workforce preparedness to support economic development.

Strategic Objectives Associations

FTCC

- 10 Improve assessment plans with documented evidence of outcomes.

Related Measures

M 1: Apply Knowledge of 3D Digital Art Techniques

What: The success of the technical and aesthetic processes of face-to face students in creating 3D virtual models will be evaluated in [SGD 214 – 3D Modeling II] utilizing a rubric.

Why: The evaluation will quantify the elements of aesthetic design and technical development to include, geometry, texture, complexity, and form.

How: Evaluation will occur by rubric for student final projects in [SGD 214 – 3D Modeling II].

When: At the conclusion of [SGD 214 – 3D Modeling II] in the last week of the fall semester of 2015 for face-to-face students..

Who: The department chair and department faculty, and will convene and evaluate the projects at the end of the course.

Source of Evidence: Project, either individual or group

Connected Document

[3D Digital Arts Rubric](#)

Target:

All face-to-face students who complete (with a passing grade of C) [SGD 214 - 3D Modeling II] will achieve an acceptable score of sixteen points or greater when evaluated by the rubric.

Reporting Finding (2015-2016) - Target: Met

Ten students who passed SGD 214 with a grade of C or higher scored sixteen or more points when graded using the rubric. The average score was 17.3 points.

Connected Document

[3D Art Techniques Rubric, 2015-2016](#)

SLO 2: Demonstrate Professional Presentation Skills in the Development of a Portfolio

Face-to-face students will demonstrate knowledge of audio/video presentation techniques used in the oral presentation of an artistic portfolio in [SGD 288 - SGD Portfolio Design]. In this process, students will demonstrate mastery of oral communication skills and persuasive techniques..

Relevant Associations:

General Education/Core Curriculum Associations

- 1 Communicate effectively using the conventions of American Standard English in professional and academic

environments.

3 Demonstrate socialization skills that support cultural awareness and a global perspective.

Institutional Goals Associations

- 1 Respond to student and community needs through measurable goals.
- 4 Focus on workforce preparedness to support economic development.

Strategic Objectives Associations

FTCC

10 Improve assessment plans with documented evidence of outcomes.

61 Continue enhancements to support services and academic programs to meet the changing needs of the military and veteran students.

Related Measures

M 2: Demonstrate Professional Presentation Skills in the Development of a Portfolio

What: Face-to-face student oral presentations for final portfolios will be assessed for effective content and delivery, professional composition, and mastery of language and communication skills.

Why: The evaluation will quantify the elements of aesthetic design and technical development to include planning, progression, diversity, and presentation of SGD products.

How: Student portfolios will be presented and evaluated using a rubric. This will occur for sophomores in [SGD 288 - SGD Portfolio Design].

When: This will occur for sophomores in face-to-face classes at the conclusion of [SGD 288 - SGD Portfolio Design] during the last week of the Spring 2016 semester.

Who: The department chair and department faculty will convene and evaluate the portfolios during the last week of the course.

Source of Evidence: Portfolio, showing skill development or best work

Connected Document

[SGD Portfolio Presentation Rubric](#)

Target:

All face-to-face students who complete (with a passing grade of C) [SGD 288 - SGD Portfolio Design] will achieve an acceptable score of sixteen points or greater when evaluated by the rubric.

Reporting Finding (2015-2016) - Target: Met

Seven students who passed SGD 288 with a grade of C or higher scored sixteen or more points when graded using the rubric. The average score was 17.4 points.

Connected Document

[SGD Portfolio Presentation Rubric, 2015-2016](#)

SLO 3: Demonstrate Logical and Cognitive Thinking

Face-to-face students will demonstrate logical and cognitive thinking through the solution of game programming problems [SGD 213- SGD Programming II]. In this process, students will demonstrate mastery of algorithms and of problem-solving utilizing programming languages.

Relevant Associations:

General Education/Core Curriculum Associations

- 2 Use critical thinking to analyze problems and make logical decisions.
- 4 Demonstrate quantitative competencies.
- 5 Demonstrate computer literacy.

Institutional Goals Associations

- 1 Respond to student and community needs through measurable goals.
- 4 Focus on workforce preparedness to support economic development.

Strategic Objectives Associations

FTCC

10 Improve assessment plans with documented evidence of outcomes.

Related Measures

M 3: Demonstrate Logical and Cognitive Thinking

What: The success of logical and cognitive thinking processes upon the completion of game programs will be evaluated for face-to-face students in [SGD 213 – SGD Programming II] utilizing a rubric.

Why: The evaluation will quantify the elements of logical and cognitive processing utilized in algorithm planning, solution formation, and code generation for problem-solving.

How: Evaluation will occur by rubric for student state machine projects in [SGD 213 – SGD Programming II].

When: At the conclusion of [SGD 213 – SGD Programming II] for face-to-face students in the last week of the fall semester of 2015.

Who: The department chair and department faculty will convene and evaluate the programs at the end of the course.

Source of Evidence: Project, either individual or group

Connected Document

[SGD Logical and Cognitive Thinking Rubric](#)

Target:

All face-to-face students who complete (with a passing grade of C) [SGD 213 - SGD Programming II] will achieve an acceptable score of ten points or greater when evaluated by the rubric.

Reporting Finding (2015-2016) - Target: Met

Nine students who passed SGD 213 with a grade of C or higher scored ten or more points when graded using

the rubric. The average score was 11.6 points.

Connected Document

[SGD Logical and Cognitive Thinking Rubric, 2015-2016](#)

SLO 4: Demonstrate Awareness of Global Business Practices

Face-to-face students will demonstrate knowledge of global business practices in the game/simulation industry [SGD 158- SGD Business Management]. In this process, students will demonstrate awareness of localization problems, global marketing, and international technology differences.

Relevant Associations:

General Education/Core Curriculum Associations

- 2 Use critical thinking to analyze problems and make logical decisions.
- 3 Demonstrate socialization skills that support cultural awareness and a global perspective.

Institutional Goals Associations

- 2 Establish a culture of quality customer service.
- 3 Ensure fiscal responsibility, accountability and financial stability.
- 4 Focus on workforce preparedness to support economic development.

Strategic Objectives Associations

FTCC

- 10 Improve assessment plans with documented evidence of outcomes.
61 Continue enhancements to support services and academic programs to meet the changing needs of the military and veteran students.

Related Measures

M 4: Demonstrate Awareness of Global Business Practices

What: The success of face-to-face students in mastering commonly accepted global business practices will be evaluated in [SGD 158- SGD Business Management] utilizing a rubric.

Why: The evaluation will quantify the students' grasp of global business considerations to include localization issues, cultural differences, technological compatibility, and piracy.

How: Evaluation will occur by rubric for student written assignments in [SGD 158- SGD Business Management].

When: At the conclusion of [SGD 158- SGD Business Management] for face-to-face students in the last week of the spring semester of 2016.

Who: The department chair and department faculty will convene and evaluate the projects at the end of the course.

Source of Evidence: Written assignment(s), usually scored by a rubric

Connected Document

[SGD Global Business Practices Rubric](#)

Target:

All face-to-face students who complete (with a passing grade of C) [SGD 158- SGD Business Management] will achieve an acceptable score of sixteen points or greater when evaluated by the rubric.

Reporting Finding (2015-2016) - Target: Met

Twenty-three students who passed SGD 158 with a grade of C or higher scored sixteen or more points when graded using the rubric. The average score was 16.5 points.

Connected Document

[SGD Business Practices Rubric, 2015-2016](#)

SLO 5: Apply Quantitative Analysis

Face-to-face students will apply accumulated knowledge of mathematical procedures and quantitative analysis [SGD 213- SGD Programming II]. In this process, students will demonstrate mastery of quantitative methods to the solving of computer problems.

Relevant Associations:

General Education/Core Curriculum Associations

- 2 Use critical thinking to analyze problems and make logical decisions.
- 4 Demonstrate quantitative competencies.
- 5 Demonstrate computer literacy.

Institutional Goals Associations

- 1 Respond to student and community needs through measurable goals.
- 4 Focus on workforce preparedness to support economic development.

Strategic Objectives Associations

FTCC

- 10 Improve assessment plans with documented evidence of outcomes.

Related Measures

M 5: Apply Quantitative Analysis

What: The application of quantitative analysis upon the completion of game programs will be evaluated for face-to-face students in [SGD 213 – SGD Programming II] utilizing a rubric.

Why: The evaluation will quantify the elements of quantitative analysis utilized in algorithm planning, solution formation, and code generation for problem-solving.

How: Evaluation will occur by rubric for student state machine projects in [SGD 213 – SGD Programming II].

When: At the conclusion of [SGD 213 – SGD Programming II] for face-to-face students in the last week of the fall semester of 2015.

Who: The department chair and department faculty will convene and evaluate the programs at the end of the course.

Source of Evidence: Project, either individual or group

Connected Document

[SGD Quantitative Analysis Rubric](#)

Target:

All face-to-face students who complete (with a passing grade of C) [SGD 213 - SGD Programming II] will achieve an acceptable score of ten points or greater when evaluated by the rubric.

Reporting Finding (2015-2016) - Target: Met

Nine students who passed SGD 213 with a grade of C or higher scored ten or more points when graded using the rubric. The average score was 11.7 points.

Connected Document

[SGD Quantitative Analysis Rubric, 2015-2016](#)

Analysis Questions and Analysis Answers

What were the strengths of your assessment process?

The strengths of my assessment process were:

1. Dictated a quantitative measure of student learning outcomes.
2. Guided learning objectives for the coming year.
3. Affirmed the success of the program in addressing the diverse learning outcomes required for modern technical curricula.

What were the weaknesses of your assessment process?

The weaknesses of the assessment process were:

1. Too narrow a selection of courses assessed by rubric.
2. Assessment of only some aspects of the curriculum.
3. Assessment of less than 100% of the student cohort.

What was learned as a result of your assessment process?

The results learned were that the continuing application of the agenda set forth by the department chair in 2013 has led to increased learning success of students when measured by relevant rubrics. Indicators are then that the program is pursuing the proper course for change and betterment.

How will what was learned impact the direction and emphasis of your academic or support unit?

What was learned has reaffirmed the efficacy of the direction set forth by department chair in 2013. Emphasis will continue to be placed on the key aspects of the curriculum currently being assessed.

Annual Report Section Responses

Program Review (Academic Units)

Attached is the most recent academic program review.

Connected Document

[SGD Program Review 2014](#)

Advisory Comm. Minutes (Academic Units)

All academic programs have associated Advisory Committees that provide community input on program direction and outcomes.

Connected Document

[SGD Advisory Committee Meeting Minutes](#)

End Of Year Reports (VPs, AVPs, Deans)

Strategic Plan (2015-2020) and other related documents

Connected Documents

[2016 Grad Survey](#)

[Strategic Plan 2015-2020](#)

3D Art Techniques Rubric

CATEGORY	5 (Excellent)	4 (Good)	3 (Fair)	2 (Poor)	1 (Fail)
Form	Demonstrates superior form, symmetry, and smoothness.	Demonstrates adequate form, symmetry, and smoothness.	Demonstrates elements of proper form, symmetry, and smoothness.	Demonstrates poor form, symmetry, and/or smoothness.	Complete lapses in form, symmetry, and/or smoothness.
Geometry	Demonstrates mastery of polygons and geometric form.	Demonstrates adequate control of polygons and geometric form.	Demonstrates acceptable control of polygons and geometric form.	Demonstrates inadequate control of polygons and geometric form.	Demonstrates no control of polygons and geometric form.
Texture	Textures appropriately designed and applied.	Textures appropriately designed and applied most of the time.	Textures appropriately designed and applied in the majority.	Textures inappropriately designed and applied in the majority.	Textures inappropriately designed and applied.
Complexity	3D models demonstrate mastery of complex forms.	3D models demonstrate knowledge of complex forms.	3D models mixture of simple and complex forms.	3D models mostly simplistic forms.	3D models entirely simplistic forms..

Acceptable Score: >=16 Points

3D Art Techniques Rubric

Fall 2015	SGD 214	
Student	Rubric Score (Points)	
Student 1		16
Student 2		18
Student 3		17
Student 4		19
Student 5		16
Student 6		20
Student 7		17
Student 8		16
Student 9		17
Student 10		17
Student Average		17.3

SGD Portfolio Presentation Rubric

CATEGORY	5 (Excellent)	4 (Good)	3 (Fair)	2 (Poor)	1 (Fail)
Planning	Demonstrates superior portfolio planning.	Demonstrates adequate portfolio planning.	Demonstrates fair portfolio planning.	Demonstrates poor portfolio planning.	Demonstrates no portfolio planning.
Progression	Portfolio clearly demonstrates skill set progression from beginning to end.	Portfolio demonstrates adequate skill set progression from beginning to end.	Portfolio demonstrates some skill set progression from beginning to end.	Portfolio demonstrates poor skill set progression from beginning to end.	Portfolio demonstrates no skill set progression from beginning to end.
Diversity	Portfolio contains a diverse collection of art, design, and programming work.	Portfolio contains a collection of art, design, and programming work.	Portfolio contains at least some art and programming work.	Portfolio contains mostly one type of work.	Portfolio contains only one type of work.
Presentation	Presentation is completely professional.	Presentation has mostly professional elements with some lapses.	Presentation has some professional elements.	Presentation has few professional elements.	Presentation is amateurish.

Acceptable Score: >=16 Points

SGD Portfolio Presentation Rubric

Spring 2016	SGD 288
Student	Rubric Score (Points)
Student 1	16
Student 2	16
Student 3	19
Student 4	18
Student 5	16
Student 6	20
Student 7	17
Student Average	17.4

SGD Logical and Cognitive Thinking Rubric

CATEGORY	5 (Excellent)	4 (Good)	3 (Fair)	2 (Poor)	1 (Fail)
Algorithm Planning	Detailed flowchart showing proper logic and demonstrating cognitive processing	Flowchart showing proper logic	Some logic in flowchart	High-level plan done with no timeline	Demonstrates no real logic
Solution Formation	Solution successful and logically derived demonstrating cognitive awareness of process	Solution successful and logically derived	Solution successful	Solution partially successful	Solution unsuccessful
Code Generation	Game programming is fully functional and efficiently coded	Game programming is fully functional	Game programming is functional with non-fatal errors	Game programming is partially functional	Game programming non-functional or contains fatal errors

Acceptable Score: >=10 Points

SGD Logical and Cognitive Thinking Rubric

Fall 2015

SGD 213

Student	Rubric Score (Points)
Student 1	10
Student 2	11
Student 3	11
Student 4	13
Student 5	12
Student 6	10
Student 7	10
Student 8	15
Student 9	12
Student Average	11.6

SGD Global Business Practices Rubric

CATEGORY	5 (Excellent)	4 (Good)	3 (Fair)	2 (Poor)	1 (Fail)
Localization Issues	Demonstrates ability to localize game software	Understands localization and can complete some localization tasks	Understands localization	Partially understands localization	Doesn't understand localization
Cultural Differences	Business solutions demonstrate cultural sensitivity	Business solutions demonstrate cultural awareness	Business solutions partially demonstrate cultural awareness	Business solutions partially demonstrate cultural awareness	Business solutions demonstrate no cultural awareness
Technological compatibility	Business solutions successfully consider technological compatibility issues	Business solutions consider technological compatibility issues	Business solutions aware of technological compatibility issues	Business solutions ignore technological compatibility issues	Business solutions fail due to technological compatibility issues
Piracy	Business solutions successfully reduce piracy	Business solutions could reduce piracy	Business solutions address piracy	Business solutions ignore piracy	Business solutions fail because of piracy

Acceptable Score: >=16 Points

SGD Global Business Practices Rubric

Spring 2016

SGD 158

Student	Rubric Score (Points)
Student 1	16
Student 2	16
Student 3	16
Student 4	18
Student 5	16
Student 6	16
Student 7	16
Student 8	16
Student 9	16
Student 10	16
Student 11	17
Student 12	16
Student 13	17
Student 14	16
Student 15	16
Student 16	18
Student 17	16
Student 18	16
Student 19	16
Student 20	18
Student 21	18
Student 22	18
Student 23	16
Student Average	16.5

SGD Quantitative Analysis Rubric

CATEGORY	5 (Excellent)	4 (Good)	3 (Fair)	2 (Poor)	1 (Fail)
Algorithm Planning	Mathematical competence superior	Mathematical competence above average	Mathematical competence average	Mathematical competence poor	Mathematical competence nonexistent
Solution Formation	Solution successful mathematically formulated without error	Solution successful with some mathematical inconsistencies	Solution partially successful mathematically	Solution unsuccessful mathematically	Solution contains no mathematics
Code Generation	Game programming is fully functional and mathematically derived	Game programming is fully functional and demonstrates some mathematics	Game programming is functional with some mathematics correct	Game programming is partially functional with little mathematical skill demonstrated	Game programming non-mathematical and non-functional

Acceptable Score: >=10 Points

SGD Quantitative Analysis Rubric

Fall 2015	SGD 213	
Student	Rubric Score (Points)	
Student 1		10
Student 2		10
Student 3		11
Student 4		13
Student 5		13
Student 6		10
Student 7		10
Student 8		15
Student 9		13
Student Average		11.7

Fayetteville Technical Community College

Academic Program Review

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Spring 2014
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Proponent: Vice President for Academic and Student Services

Available online at:
http://www.faytechcc.edu/institutional_effectiveness/handbookmanualplans.aspx

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Fayetteville Technical Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate degrees, diplomas and certificates. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Fayetteville Technical Community College.

FAYETTEVILLE TECHNICAL COMMUNITY COLLEGE

Table of Contents

X. Academic Program Review

X-1 Mission	3
X-2 Purpose of Review.....	3
X-3 Overview of Program Review Process	3
X-3.1 Program Description, Policies, and Affiliations	4
X-3.2 Program Curriculum.....	10
X-3.3 Faculty	17
X-3.4 Resources and Support Services	22
X-3.5 Enrollment, Recruitment, and Outcomes Assessment.....	25
X-3.6 Constituency Satisfaction	36
X-3.7 Appraisal and Direction for the Future	37
X-4 Appendices	41

X-1 Mission

The mission of Fayetteville Technical Community College (FTCC) is to serve our community as a learning-centered institution to build a globally competitive workforce supporting economic development. FTCC promotes the growth of the whole person in a caring environment that encourages strong ethical values, personal integrity, and a sense of responsibility to the needs of society.

X-2 Purpose of Review

The purpose of program review is to strengthen department programs and increase department efficiencies and effectiveness. The review assesses and critically evaluates a program's stated outcomes and use of supporting resources to measure if the program is fulfilling its goals and adequately supports the College mission. The process necessitates documenting successful and unsuccessful efforts, identifying future needs, and verifying compliance with accreditation and college standards. The results of the review process will serve as a tool for continuous program improvements and will impact the institutional and program-level planning and budgeting activities. Program review becomes the baseline measurement of where the program is right now, where program managers would like for it to be in the next one to five years and planned achievement targets, qualitative and quantitative measurements, analysis of those measurements to report findings, and projected action plans and dates for reaching those future objectives. Program review is not intended to replace formal assessment activities in the WEAVE Assessment Management System and is intended to provide additional support and quantitative/qualitative evidence to further support the outcomes and findings housed in WEAVE.

X-3 Overview of Program Review Process

1. The Program Review Process (PRP) begins with a Program Self-Study. The Department Chair organizes a team to conduct the Self-Study. The team must include the Department Chair (or Program Coordinator), all full time faculty members regularly teaching program courses and at least one part-time faculty member that has taught in the program for two or more semesters. All required historical statistical and numerical data will be provided by the Human Resources, Workforce Development, and Institutional Effectiveness (HR/WFD/IE) Office.
2. Teams shall use the current electronic version of the Program Review Self-Study template (Fill-in form P-1). Supplemental information and supporting

documentation is highly encouraged to adequately support the program review findings.

3. A full Self-Study shall be submitted to the Chief Academic Officer (CAO) every three (3) years with annual updates submitted by March 15 of the academic year during the subsequent two years. Timely submission and quality of analysis will be addressed as part of the Department Chair/Program Coordinator's annual performance appraisal.
4. Upon submission of the full 3-year program review, the departmental Program Review Team will meet to prepare a presentation of their self-assessment findings and recommendations to the CAO, AVP for Curriculum Programs, and the appropriate Academic Program Dean. The presentation must include the Self-Study Team's recommendations for continuous improvement and required program support to implement those improvements. These recommendations shall be considered during future budgets and personnel decisions. Department Chairs/Program Coordinators shall submit necessary budget decision packages (see fill-in forms E-5, E-6, E-28, E-15, F-2, I-11, and O-1).
5. The remainder of this publication reflects items that must be included in the program review and mirror the contents of the program review fill-in form (P-1).

X-3.1 Program Description, Policies, and Affiliations

(Self-Study Team's assessment)

A. Provide a description of the program.

Note on this document: As a new program in academia that deals with a somewhat vaguely defined profession, I feel that that we have little relevant data to work with in many respects in preparing this report. Furthermore, having been involved in collecting graduate survey data, I propose that what data we do have can be misleading. Therefore, in this report, I have focused on future planning and the initiatives I have instituted in the last two years to stimulate growth in the SGD department. In some cases, I have used personal measurements I have taken as chair to try to gauge results (admittedly anecdotal in cases) because I am in the process of creating tangible metrics to better report results in future reviews.

The Simulation and Game Development Curriculum provides a broad background in simulation and game development with practical applications in creative arts, visual arts, audio/video technology, creative writing, modeling, design, programming and management.

Students will receive hands-on training in design, 3D modeling, software engineering, database administration and programming for the purpose of creating simulations and games.

Graduates should qualify for employment as designers, artists, animators, programmers, database administrators, testers, quality assurance analysts, engineers and administrators in the entertainment industry, the health care industry, engineering,

forensics, education, NASA and government agencies.

Within the strictures of the above, I am stressing rigorous instruction in the core technologies of 3D art and animation and simulation programming in such a manner that the graduates of the program will be able to tap into the full potential of these technologies to expand into a much broader spectrum of industries and endeavors than is currently envisioned. In simpler terms, we are striving to go beyond the word “game” in simulation and game development and introduce these emerging technologies into the mainstream of business, because I personally believe that there is a great unrecognized use for SGD technologies that I hope that our graduates will contribute to the business and the economy, thereby greatly broadening the employment potential in this field.

B. Discuss how the program supports the College in fulfilling its mission. List your program's mission, targeted future goals and objectives and how those goals/objectives are linked to the College's Institutional Goals and Strategies located in the FTCC Strategic Plan.

The Simulation and Game Development program supports FTCC's mission because at its core it deals with new and still largely untapped 3D technologies used in virtual worlds, 3D models, and motion capture. While ostensibly training students for the simulation and game industries, we are focusing on gaming technologies that are/can be applied to many industries. In this way, SGD supports economic development in the Fayetteville and a globally competitive workforce.

Our program's mission, as I see it, is not only to prepare students for entry into the growing and lucrative simulation/game industry, but to challenge students to prepare the way to the future by utilizing the technologies created for games to enhance a broad spectrum of industries and to maintain the United States' technical arsenal well into this new century.

In terms, of FTCC's goals, we can identify the following:

Communicate effectively using the conventions of American Standard English in professional and academic environments.

Use critical thinking to analyze problems and make logical decisions is taught through game and simulation programming.

Demonstrate socialization skills that support cultural awareness and a global perspective is taught through the multicultural nature of modern game design.

Demonstrate quantitative competencies is taught through application of game and simulation programming..

Demonstrate computer literacy – students in SGD demonstrate computer literacy through artistic and creative modeling with 3D technologies.

C. Beyond general College admission policies, list any special requirements pertaining to program admission (i.e. passing a background check, GPA requirement, etc.).

At this time, there are no special requirements for this program, although in future, there are plans to introduce portfolio requirements similar to a traditional art program. Jobs in the simulation industries are obtained largely by the use of portfolios and other demonstrations of creativity and talent in lieu of the rigid certifications found in the IT areas.

D. List articulation or other such agreements that the program currently has with other community colleges or four-year institutions. Briefly describe the details of such agreements, including when the agreements were last reviewed, updated and approved by the partnering colleges.

At present, SGD, being a new program in an emerging field, has no signed articulation agreements in place; however, I have been in negotiations with Fayetteville State University's Fine Arts Department to implement an agreement and pathway for SGD students concentrating in 3D Modeling/Digital Art to earn a Bachelor's degree. Also, I have my instructor, Laura Galvan, researching the possibilities of attaining an agreement with Campbell University.

Still on my agenda in this regard is the pursuit of an agreement that provides a pathway for students interested in SGD programming to earn a bachelor's degree. My goal is to have agreements with at least four universities, with a preference that at least one be non-local.

Also, I wish in future to establish relationships with the community colleges in adjacent counties such as Bladen, Roberson, and Richmond. My hope is that we may eventually be able to create 1+1 programs with these schools. I am also working with Rowan-Cabarrus Community College towards a similar end. As a preparation for this, I have been experimenting with an entirely online program for at least the first semester of SGD.

Addendum: Since I have started this review we have contacted/been contacted by ECU and the Living Arts College in Raleigh to negotiate further pathways to a bachelor's degree for our students.

E. List specific linkages or partnerships the program has with local businesses, community or civic organizations, K-12 schools, etc. Briefly describe the nature of such partnerships. Include relevant contact information for partnering businesses, organizations, etc.

SGD has a partnership with Methodist University for the use of the virtual reality lab that their Environmental Science department maintains. Our students are engaged in developing components to enhance the lab and provide for it use a training tool for various Methodist programs.

Contact: Dr. Deborah Branson, Methodist University, (910) 630-7136

We have begun working with Douglas Byrd High School here in Cumberland County helping with their extracurricular program for girls in #D technologies. Right now, this consists of faculty and/or students volunteering time as mentors one Saturday per month. We hope to expand our work in this area shortly.

Contact: Yolanda Epps, Assistant Principal, Douglas Byrd High School, Phone: (910) 484-8121

We have also begun communications with the Information Technology Director for the Richmond County school secondary school system. We hope to provide support and encouragement that provide opportunities for Richmond County High School graduates to attend in FTCCs SGD program. Because Richmond County is outside of our jurisdiction, I am reaching out to Richmond Community College to form a partnership, so that we may provide this support within the strictures of the community college system.

Contact: Jeffries F. Epps, MCSE, Director of Informational Technology
Richmond County Schools, 118 Vance St., Hamlet, N.C. 28345, (910) 582-5860 x 1288

I hope to continue to develop relationships with K-12 in our county and region, including the training of K-12 personnel in SGD technologies as a means of better reaching out their students.

Also, I have initiated a program of SGD camps within our own Summerscapes program for the purpose of stimulating interest in SGD technologies among our K-12 student population.

Partnering with local business is also on the agenda as evidenced with the attempt we made to partner with Rick Perko and Immersion for the SGD motion capture lab. My primary goal here is to seek partnership in some form with Fort Bragg because I know that simulation is a large part of their mission, and I feel that there is some way that we can align what we do with the goals of the military.

X-3.2 Program Curriculum

(Self-Study Team's assessment)

A. List the program's approved plan of study. Provide the suggested sequence of course numbers, titles, and credits.

FAYETTEVILLE TECHNICAL COMMUNITY COLLEGE SIMULATION AND GAME DEVELOPMENT (A25450) Effective: Fall 2014 Revised: 03/06/14					
Length: 5 Semesters					
Prerequisite: High School Diploma, Placement Test Equivalent					
Award: Associate in Applied Science					
FALL SEMESTER 1					
Prefix No.		Class	Lab	Work Exp.	Credit
	<i>Title</i>				
	ACA Elective	1	0	0	1
ENG111	Writing and Inquiry	3	0	0	3
SGD111	Introduction to SGD	2	3	0	3
SGD112	SGD Design I	2	3	0	3
SGD113	SGD Programming	2	3	0	3
SGD114	3D Modeling	2	3	0	3
	Totals	12	12	0	16
SPRING SEMESTER 1					
Prefix No.		Class	Lab	Work Exp.	Credit
	<i>Title</i>				
SGD116	Graphic Design Tools	2	2	0	3
SGD122	SG Database Programming	2	3	0	3
SGD162	SG 3D Animation	2	3	0	3
SGD164	SG Audio/Visual	2	3	0	3
SGD174	SG Level Design	2	3	0	3
	Totals	10	14	0	15
SUMMER SEMESTER 1					
Prefix No.		Class	Lab	Work Exp.	Credit
	<i>Title</i>				
COM231	Public Speaking	3	0	0	3
	Social/Behavioral Science Elective	3	0	0	3
	Totals	6	0	0	6
FALL SEMESTER 2					
Prefix No.		Class	Lab	Work Exp.	Credit
	<i>Title</i>				
SGD159	SGD Production Management	3	0	0	3
or					
SGD163	SG Documentation	2	3	0	3
SGD212	SGD Design II	2	3	0	3
SGD213	SGD Programming II	2	3	0	3
SGD214	3D Modeling II	2	3	0	3
	Math Elective	3	0	0	3
	Totals	17	9	0	21

		Totals	11	9	0	15
SPRING SEMESTER 2						
Prefix No.		Class	Lab	Work Exp.	Credit	
	Title					
SGD158	SG Business Management	3	0	0	3	
SGD289	SGD Project	2	3	0	3	
	Humanities/Fine Arts Elective	3	0	0	3	
	Major Elective	4	6	0	4	
		-----	-----	-----	-----	
	Totals	12	9	0	13	
TOTAL REQUIRED CREDITS.... 65						
Work Based Learning Option: Qualified students may elect to take up to three (3) credit hours of Work Based Learning in lieu of a Major elective provided they acquire approval from the Co-op/Work Based Learning Coordinator and the Department Chairperson.						
*Note: Students may not take an introductory foreign language to fulfill the Humanities/Fine Arts requirement.						

B. State the specific student learning outcomes and graduation competencies of the program. Describe them in measurable terms including discussion of the department approved metrics/rubrics used to assess those competencies. Include references to the program’s general education outcomes and career-related skills. For example, link program outcomes to the approved FTCC General Education Competencies located on the College’s Human Resources, Workforce Development and Institutional Effectiveness website.

The students learning outcomes are:
 A working knowledge of and practical experience with game/simulation design as evidenced by satisfactory completion of a capstone project constructing a game/simulation.

Skills and proficiency with 3D technologies such as modeling, animation, level design, etc. equal to those required by an entry-level employee in the industry as evidenced by the completion of a satisfactory portfolio.

Rudimentary understanding of computer programming as evidenced by satisfactory completion of SGD 113, SGD 122, and SGD 213.

C. How does the curriculum ensure that it is and/or remains relevant to students in the 21st century and the expected challenges and opportunities they will face upon graduation?

The curriculum remains relevant through constant reevaluation of course content, software and hardware upgrading, and professional development of faculty. This is guided by research, consultation with a network of education and industry professionals, and graduate feedback. As an emergent technology, SGD is on the cusp of change, and as such, is continually evolving as a curriculum. One of the failures in this program in the past has been not to align our curriculum correctly with the skill sets required by graduates in this program, leading to low employment levels. We have gone along way toward correcting this in the last academic year, and I feel that the Spring 2015 graduate will be by far the most prepared group that we have produced as yet in this program.

In addition, the curriculum has been modified to incorporate discussion of the current challenges in the business sector as a whole, and how these challenges affect the simulation and game industry as a profession. Also, a focus on entrepreneurship has been introduced in the wake of the indy movement that has marked this industry in recent years.

D. Describe the methods (formal and/or informal) used to ensure continued program currency. How the faculty is involved in the process to maintain program currency? How is the program advisory committee involved? How have outside consultants been used?

Most of the work done in the past two years to ensure continued program currency has been done on an informal basis. On the academic side, I have personally met and/or toured the facilities of my community college peers in the central portions of the state. I have also interviewed game company personnel such as Steve Reid, Managing Director of Red Storm. Also, David Joyner maintains contacts with personnel at Epic, another big game production company in this state. David also is assigned to keep abreast of the latest in game engine and 3D technology. We are also in the process of purchasing state-of-the-art software and hardware that is currently used in the industry. I have also had informal contacts with the simulation personnel at Fort Bragg.

As for an advisory committee, the one in place was woefully inadequate because it contained no professionals remotely related to this industry. I am in the process of putting together a new advisory board of game industry and 3D technology professionals.

E. What changes have been made to the curriculum program of study during the past three years? Why were these changes made? Did the changes result in anticipated outcomes originally driving the change?

When I took over SGD in February 2012, it was suffering greatly from the fact that it was a department without any assigned faculty. As such, the curriculum per force relied on too many non-SGD courses and instructors. This does not work for SGD because SGD is not only a highly specialized curriculum, it is also attached to a division of Information Technology programs when it itself is not an IT program at all. Therefore, I implemented an agenda for positive growth whose first phase was curriculum improvement.

The procedure by which I implemented change was as follows:

- Careful review of other major NCCCS SGD programs, including those of Wake Tech, CPCC, Sandhills, Wayne, and Western Piedmont.
- Interviews with SGD chairs of the above mentioned schools.
- Discussions with game company leaders in our state, and also with simulation specialists at Fort Bragg
- Research of potential jobs for our students
- Analysis of the “black holes” of necessary skills in the then current curriculum

As a result of this careful research, I came to the following conclusions:

- All, non-SGD courses with the exception General Education were in appropriate to the curriculum.
- New SGD courses, in texturing, database programming, mobile programming, 3D modeling were introduced
- Existing but dormant SGD electives became requirements

The purpose of these changes was

- To provide a consistent progression of knowledge for students culminating in their ability to produce viable games in their Capstone Project course
- To align our program with those others active in NCCCS to provide easy transferability
- To be in a position to form partnerships with other system schools to possibly establish One plus One programs and the like

In this past school year, when the changes came into effect, I feel we have improved the program greatly, as demonstrated by the fact that this year’s freshmen are routinely performing tasks and exhibiting skills that the current sophomores do not possess because the courses that taught such skills were not available to such sophomores. It is my fervent hope that this will lead to more competitive job placement for students in coming years as compared to previous years.

F. What curriculum changes are currently being considered? Why?

Most of the curriculum changes on my agenda for SGD have been instituted, and I am now in the refinement stage. The two refinements currently on the agenda are

1. To introduce motion capture into the required curriculum as a result our purchasing of the required technologies.
2. To introduce mandatory portfolio development into the curriculum, as facilitated by the approval of a portfolio course into the state CCL, and to spread such portfolio development throughout the course of the program. (Portfolios are of vital importance to job-seekers in this field, as in any art-related field.

G. List members of the program’s advisory committee (if one exists). Include names, titles, and backgrounds, how long members have served, and any criteria used by the program leadership to select members.

No formal committee at present, but the department is in the process of forming one. The criteria that I am using to select board members are based on industry credentials and leadership of 3D technology-based companies. I am eschewing academia for the advisory committee because I believe the purpose of the committee is to obtain advice from the employers of our graduates and future graduates so that we may better mold their education to meet these employers’ needs and desires. I am particularly interested in obtaining advice from industry entrepreneurs because the simulation/game industry is more than ever dependent on entrepreneurial ventures for sustained growth.

H. How often does the advisory committee meet? Describe how active the committee is as issues are discussed related to the program. Identify how meetings are conducted and how recommendations are put forward for consideration of approval. Attach a copy of the last advisory committee meeting minutes as supporting documentation.

Not applicable at this time.

I. What specific issues or concerns have been addressed by the advisory committee during the past three years? Describe any activities the department has used over the last 3 years suggested by the committee related to keeping the curriculum current. Relate how effective the committee is at communicating its concerns and how the advisory committee's effectiveness might be improved.

Not applicable at this time.

X-3.3 Faculty

(Self-Study Team's assessment)

- A. For the past three (3) academic years, provide the total number of sections, by course number, run by the program and the percentage of those that were taught by full-time faculty members. (Sections offered and that were not canceled for low enrollment can be obtained by contacting either the Director of Institutional Effectiveness (8-8535) or from the Office of Curriculum Data Management (8-8218).

Simulation and Game Development Core Courses Offered by Term

	2010SP	2010SU	2010FA	2011SP	2011SU	2011FA	2012SP	2012SU	2012FA	2013SP	2013SU	2013FA
SGD-111	2	***	3		***	3	*	***	3	*	***	3
SGD-112	2	***	3		***	3	*	***	3	*	***	1
SGD-113	2	***	1	3	***	*	2	***	*	1	***	3
SGD-114	1	***	2	3	***	1	3	***	1	2	***	1
SGD-158	**	***	**	1	***	*****	1	***	*****	1	***	*****
SGD-163	*	***	*	*	***	1	*	***	1	*	***	1
SGD-164	*	***	*	*	***	1	*	***	1	*	***	1
SGD-172	1	***	1	****	***	****	1	***	****	****	***	****
SGD-174	1	***	*	1	***	*	1	***	*	1	***	*
SGD-181	**	***	**	**	***	**	**	***	**	1	***	*
SGD-212	1	***	*	1	***	*	1	***	*	1	***	*
SGD-214	1	***	*	1	***	*	*	***	*	1	***	*
SGD-274	****	***	1	****	***	****	****	***	1	****	***	1
SGD-289	**	***	**	1	*****	*****	1	***	*****	1	***	*****

*Core course not offered.

**Core course not yet added to program.

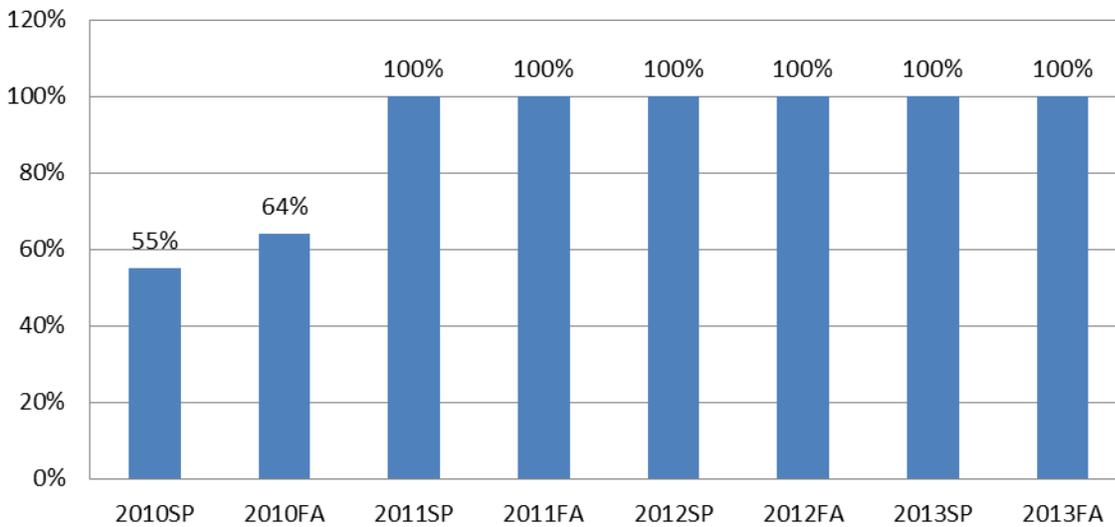
***Core course not offered during the Summer semester.

****Core course offered based upon course sequencing and student education plans.

*****Core course only offered during the Spring term.

*****Program began in 2010.

Percentage of Simulation and Game Development Core Courses Taught by Full-Time Faculty (Spring 2010-Fall 2013)



Based in the chart above, 55% of classes were taught by fill time faculty during the spring of 2010, while 64% of them were taught in the fall of that same year. Since spring of 2011, all classes have taught by full time instructors.

B. Define the criteria used to determine faculty qualification to teach in the program. List any degree requirements, as well as relevant certification, licensure, and experience used to evaluate candidates during the hiring process.

The criteria used to determine faculty qualification are education and experience with specific technologies. Because the field is relatively new, established norms for employment are somewhat absent; however, because of its artistic nature, I personally choose faculty for the program not only for specific skills with 3D technology, but also for creativity in the use of said technology. In addition, I feel that is important that all faculty who teach for the department support its mission.

In addition, due to the relatively limited size of the student cohort, I feel that the department should support students in a more individualistic manner than large departments. To this end, I feel that faculty need have some understanding of the sociology of the gaming and arts community, and in gross terms, “relate” to the students through games, music, and other cultural elements. This is necessary because the nature of the gaming community is such that education and socialization are intimately intermixed.

C. Are all faculty (full-time and part-time) appropriately credentialed and qualified to teach in the program? Please explain and provide a list of faculty (including their rank, length of service, highest degree, areas of specialization, and relevant experience).

Yes, all faculty are appropriately credentialed for specific roles in the SGD program. Each member is assigned courses within a speciality.

The faculty are:

Stephen W. Umland, Department Chair – Community College teacher for seventeen years, SGD teacher for four years; Masters in Mechanical Engineering, specializes in teaching design principles (for games and technology in general), simulation programming, and SGD business concepts. Experience as an engineer, a board game designer, a small business owner in game retailing.

David Joyner, SGD Instructor – rookie teacher, Bachelors in Animation and Digital Arts, specializes in animation, digital graphics, 3D modeling, and game art. Experience in game and film industry through internship. Age and experience aligns well with that of our students, such that his insight into the challenges that they face is very useful.

Doctor Willie Lockett, CIT Instructor – PHD, specializes in audio, audio software, and effects. Experience as band leader and musician and as A/V person provides students with access to additional knowledge useful in a game industry that is overlapping with the film and animation industries.

Laura Galvan, CIT Instructor – long service with FTCC; long experience with programming.

D. Are all faculty, including adjuncts, evaluated on a periodic basis? If so, what is the schedule for the process? Is the program up-to-date on the completion of faculty evaluation? Why or why not? What have been the general findings of the evaluations?

All faculty are formally evaluated by appropriate chair annually, and informally by department chair on a regular basis. All evaluations are current because they have been completed coincident with the writing of this document.

The general findings are positive, and the faculty in this program are providing better services to the students in this academic year than in any previous year. We are not perfect of course, but I have assembled a small group of faculty with dedication and a love for what they teach. Faculty with a negative attitude or lack of knowledge or general lethargy have been winnowed out of the program.

Faculty divisional hours have been focused on providing lab time and additional one-on-one instruction for program students, and I believe

E. Describe full-time faculty participation in professional development opportunities. Explain how professional development contributes to the overall effectiveness of the program. Provide a list of faculty and their professional development experiences for the past three (3) years.

Full time faculty participation in professional development includes; (1) Conferences, (2) Faculty development classes and, (3) Supplemental training in technology classes offered on campus. Along with the demand for quality professional development faculty members will have the need to be accountable. Professional development programs must be assessed to document their value to the school organization, individual educator, and ultimately the students. To ensure the effectiveness of each professional development effort. The development of the evaluation strategy should commence at the beginning of the planning process for each professional development program. Members of an evaluation team are chosen and charged with the responsibility for evaluating each program. As a preliminary step, evaluators determine the purposes of the evaluation.

F. Describe full-time faculty research initiatives, conference or other presentations, and publishing ventures. Explain how faculty research projects contribute to the overall effectiveness of the program. Provide a list of faculty, their research projects, and presentations/publications.

David Joyner have spent a great deal of time with the latest software offerings for both 2D and 3D asset creation. Autodesk Maya, Mudbox, 3ds Max, and Motion Builder provide industry leading platforms for the creations of modeled, textured, and animated assets. This coupled with the school/s new Motion Capture Studio means that students can learn pipelines to create realistic 3D works quickly and easily, allowing them to work at a professional level.

David Joyner have also been researching virtual reality headsets such as the Oculus Rift and Sony's Project Morpheus – two devices that are poised to change the way we interact with the digital world. Having an understanding of this technology and creating virtual environments and settings for use with the headsets will provide valuable experience that few have in this emerging market.

David Joyner have also done research into other uses for 3D assets, such as 3D printing. 3D printers are becoming more affordable every day, and 3D printing is becoming a sensational new way to bring product into the home. Skills to create models suitable for printing is a very in demand skill as well.

X-3.4 Resources and Support Services

(Self-Study Team's assessment)

A. Does the program use labs, unique classroom spaces such as clinical sites, or specialized equipment or supplies? If so, please provide details.

This program primarily uses dedicated computer labs that run high-end, highly specialized software such that provided by Adobe and Autodesk. In addition, the program utilizes cutting edge game engines such as Unity and Unreal. This software is supported by such hardware as graphic tablets, 3D printers, etc.

The most specialized space we are in the process of constructing is the Motion Capture lab. This is a highly specific technology that captures human motion and projects onto characters in virtual worlds.

The other specialized space that we employ is Methodist University's VR lab, which through the use of VR headsets and special effects places users inside (completely surrounded by) of a virtual world.

B. Are the spaces and supplies mentioned above adequate in meeting the needs of the program and its students? Indicate the strengths and limitations of the resources provided. Please include recommendations for how their provision could be improved.

With the expenditures of this year (Motion Capture, Unity), yes. The program is finally obtaining the technologies it requires. For a small program, we are now going to be more than adequately equipped to compete with larger programs. The only large limitation we now have is the absence of mobile devices such as Android tablets which are now one of the major platforms for game development.

As for spaces, our only concern at this time is the sharing of the space for the motion capture lab due to the incongruous duties and obligations of the SGD department and media services.

C. Does the program receive support services from the Library, Information Technology, Student Development, or any other offices or departments? Please list the service providers and their contributions to the program. Be sure to include other academic departments that contribute to the success of the program.

The library has a number of books and articles related to simulation and gaming available through the online site.
Information technology division helps supply human resources to cover existing classes. 3DS max and python have been loaded onto seven machines in the open lab (programming labs area) for student's use after class times.

D. Are the support services mentioned above adequate in meeting the needs of the program and its students? Indicate the strengths and limitations of the services provided. Please include recommendations for how services could be improved.

The support services listed in (c) above are necessary in meeting the curriculum's minimum objectives. The software is complex, and few people are trained in its use. This provides a limited pool of available talent to help students with their understanding and application.

In order to improve support services, the computers in the open lab need to be upgraded to classroom standards in terms of both hardware and software.

E. Does the program anticipate needing any non-routine budget allocations during the next three years? If so, please provide details. For example, will more faculty be required based on enrollment projections or will inadequate or outdated equipment or classroom space need to be replaced or improved?

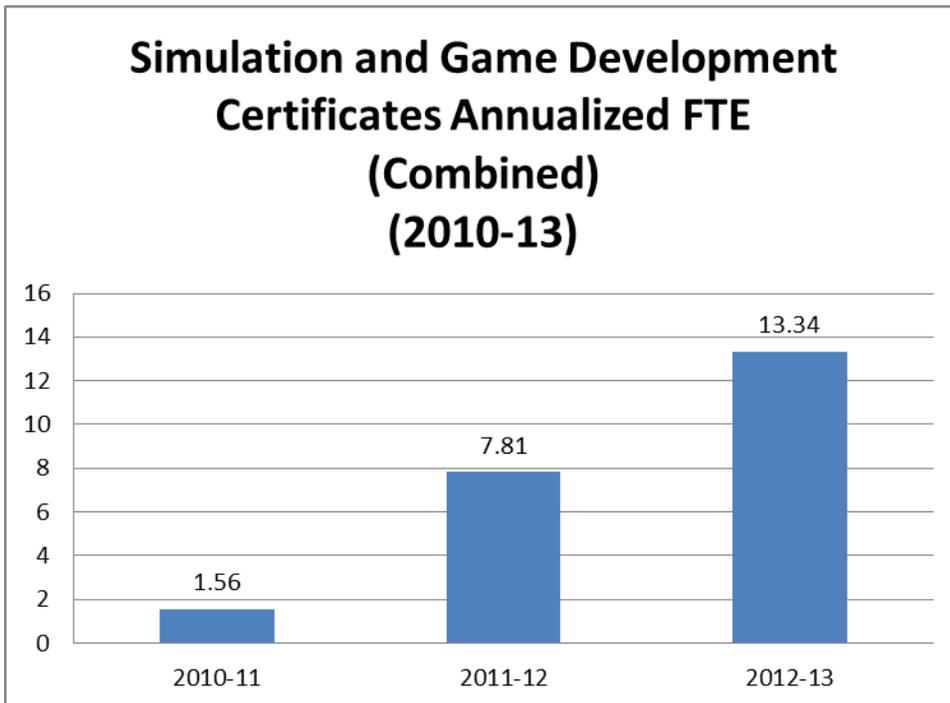
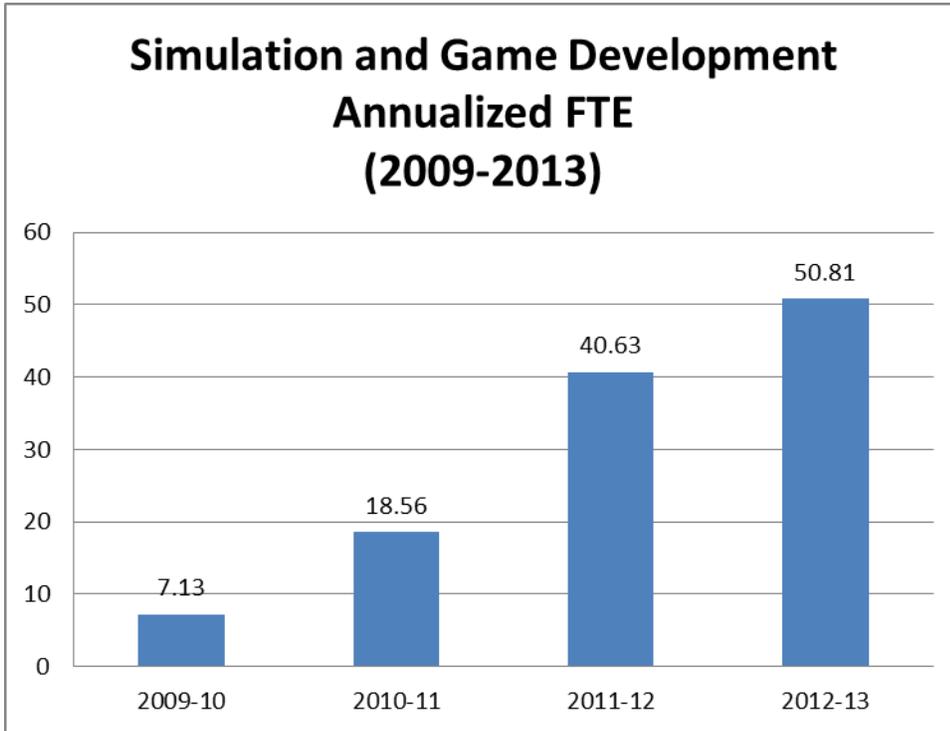
Inadequate computers have partially been replaced. Further replacement will be necessary in the next three years. The department will need minor upgrades in technology such as Android tablets, Wacoms, VR headsets, etc.

With this year's growth in students, we are at the limits of our faculty's available teaching hours. I am developing CIT instructors to partially alleviate this situation. If the program doubles its cohort in the next three years, we will need another full-time specialist faculty member.

F. Please describe your relationship with the FTCC Grants Department. Please describe all activities your department has engaged in to receive grants during the past three (3) years.

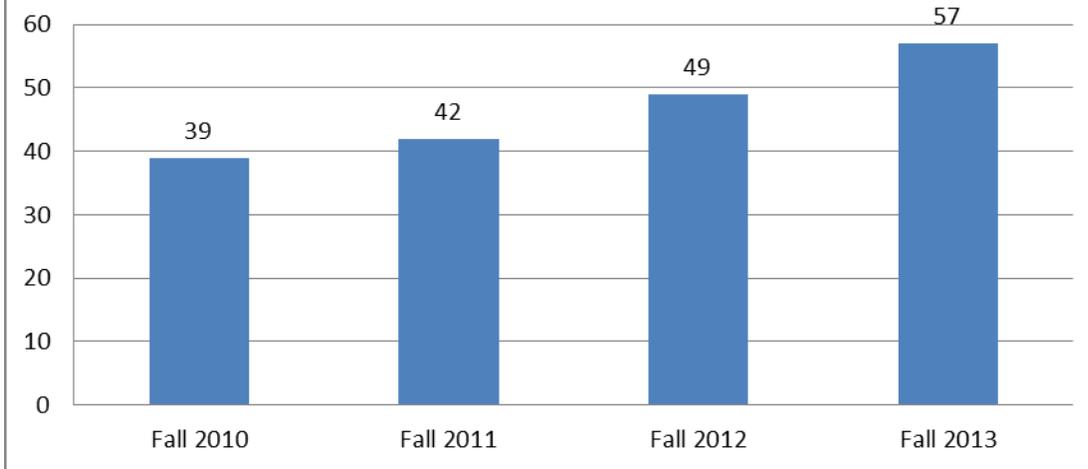
The department chair has worked with Wendy Hustwit on a number of issues involving funding various student endeavors. These activities include attempts to provide student support for working with the Methodist VR lab, the development of an incubator, and the sponsoring of student William Smith in his attempt to gain an Innovation grant.

X-3.5 Enrollment, Recruitment, and Outcomes Assessment



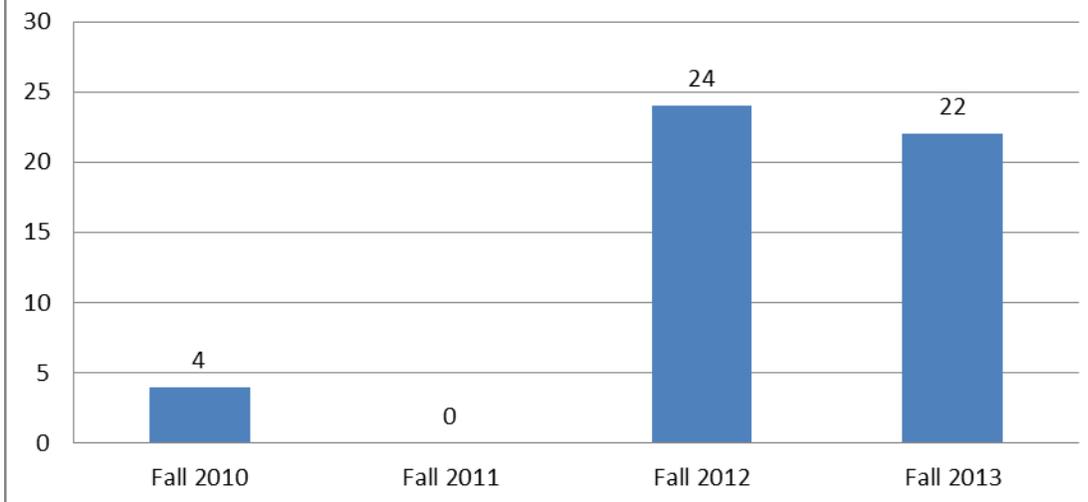
*NCCCS does not list certificates separately for analysis if under a parent Associate Degree; only cumulative totals are provided.

Simulation and Game Development Enrollment by Fall Term (2010-2013)



*NCCCS did not have Fall 2009 data

Simulation and Game Development Certificates (Combined) Enrollment by Fall Term (2010-13)



*NCCCS does not list certificates separately for analysis if under a parent Associate Degree; only cumulative totals are provided; no data for Fall 2009 was available at NCCCS.

A. Analyze the number of FTE generated by courses in the program for the past three (3) academic years. What are the specific causes for upward and downward trend lines?

The number of FTE generated by courses in the program for the past three years has increased by 50% between 2011 and 2013. The specific causes for upward trend are contributed to increase recruiting, improved retention efforts, and better enrollment.

B. Identify the program's primary competitors. Beyond general College-wide advertising, what concrete marketing strategies have been used by the Department to promote the program and attract students that might otherwise enroll elsewhere? What exceptional program characteristics could be leveraged to distinguish the program from competing programs (e.g., faculty credentials, unique course offerings, work-based or other innovative learning opportunities, and so on)? In what ways does the program faculty work with the admissions staff to recruit students for the program?

Direct competitors to the program would include the Animation program at the Living Arts College, and online animation degrees through schools such as Animation Mentor, SCAD, and Academy of Art University.

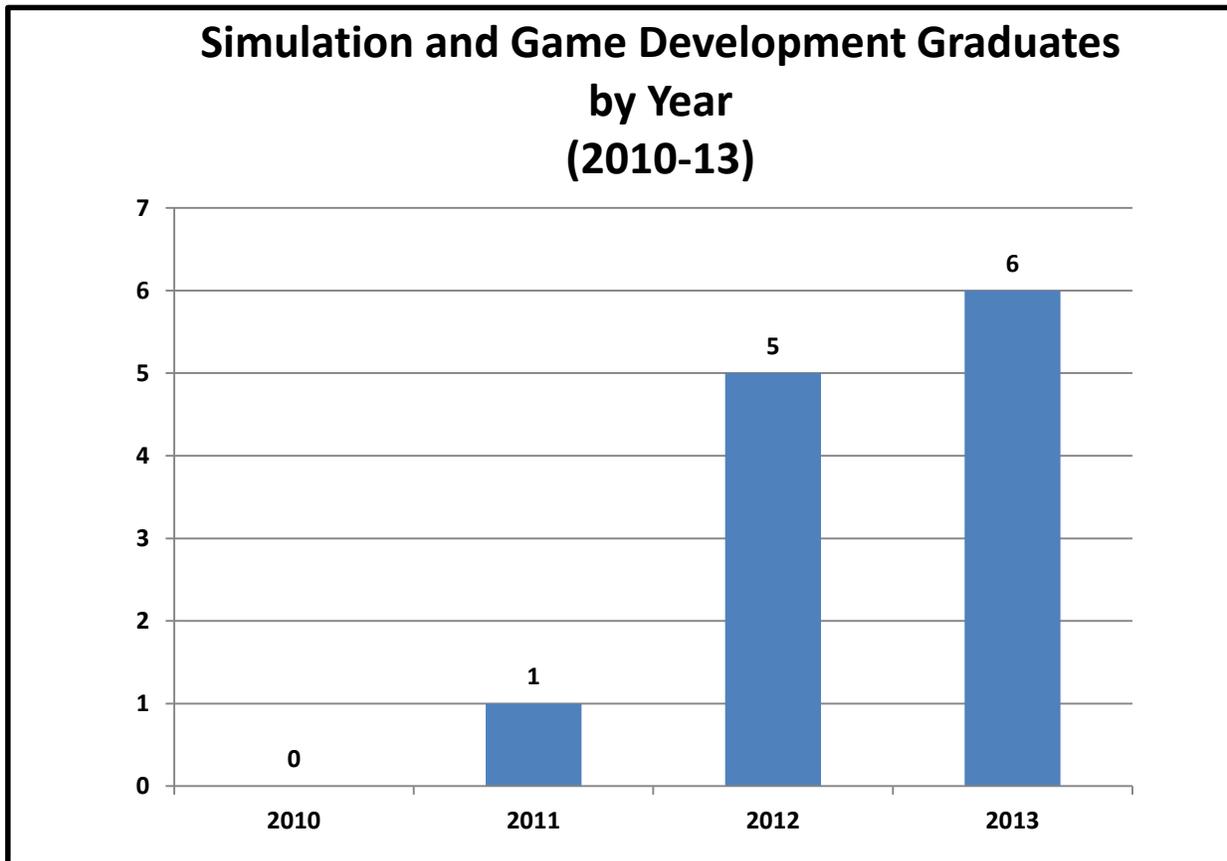
The largest advantage our program has over these competitors is cost. Not only is it more affordable because the program is at a Community College, but the only other options for a similar program will cost, at minimum, 10 times as much for the same degree. Not to mention, unless students are planning on traveling some distance for school at another Community College, their only options for a program dedicated to creating 3D works for media are from for-profit institutions, which recently have come under a lot of fire from prospective students and former graduates.

Our program has instructors who are passionate not only about their craft, but about imparting their knowledge on said craft unto others.

Not to mention, we are one of the few (if not only) schools in the state that utilizes a full motion capture studio on campus, where students can learn how to create and manipulate realistic human animation for production. This skill is invaluable in the industry today and really helps us to stand out.

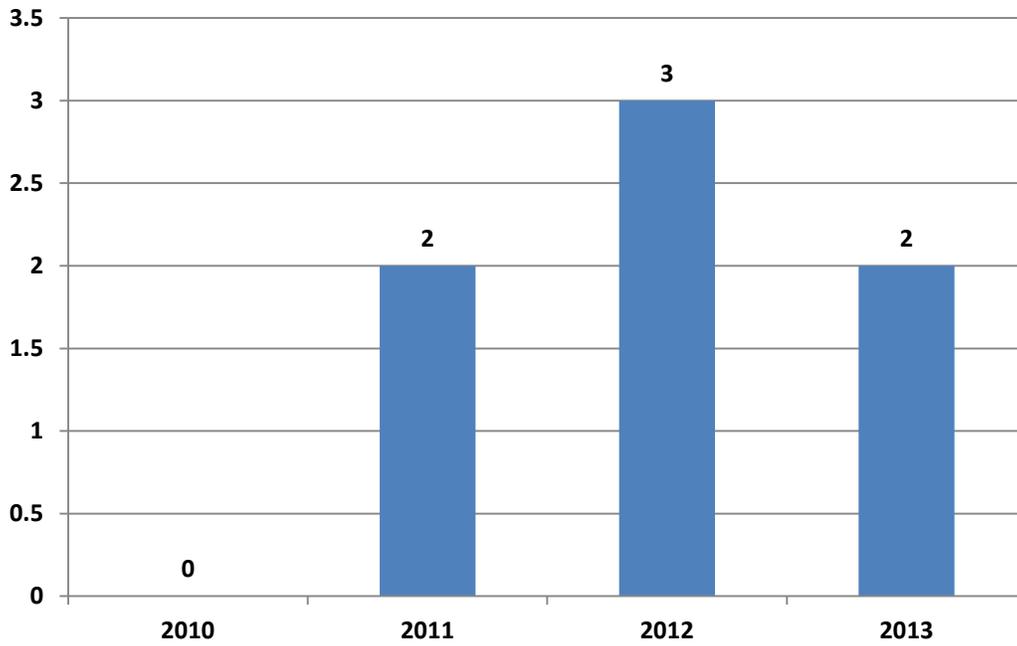
We have partnerships with multiple local high schools where we work with students and give them an introduction to some of the technologies we would like to utilize in the program. Douglas Byrd High School's 3Degrees program, for example, meets once a month to educate teenage girls on the 3D industry and teach them how they can build a successful career within it.

C. Provide the number of students who graduated with a major or minor from the program in the past three years.



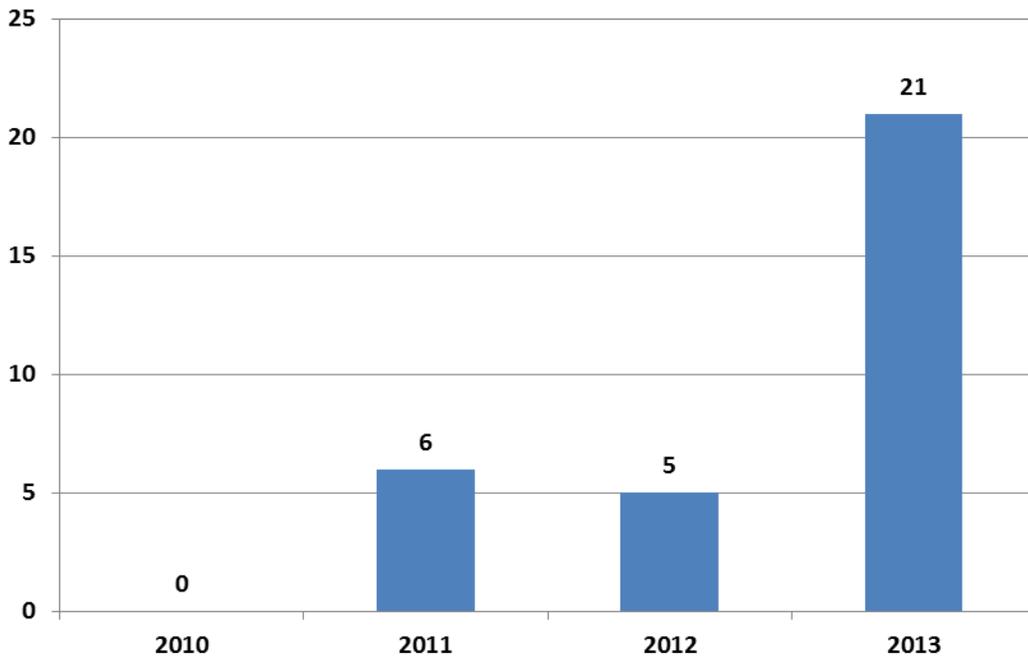
*Program did not begin until 2010.

Simulation and Game Interactive 3D Graduates by Year (2010-13)



*Program did not begin until 2010.

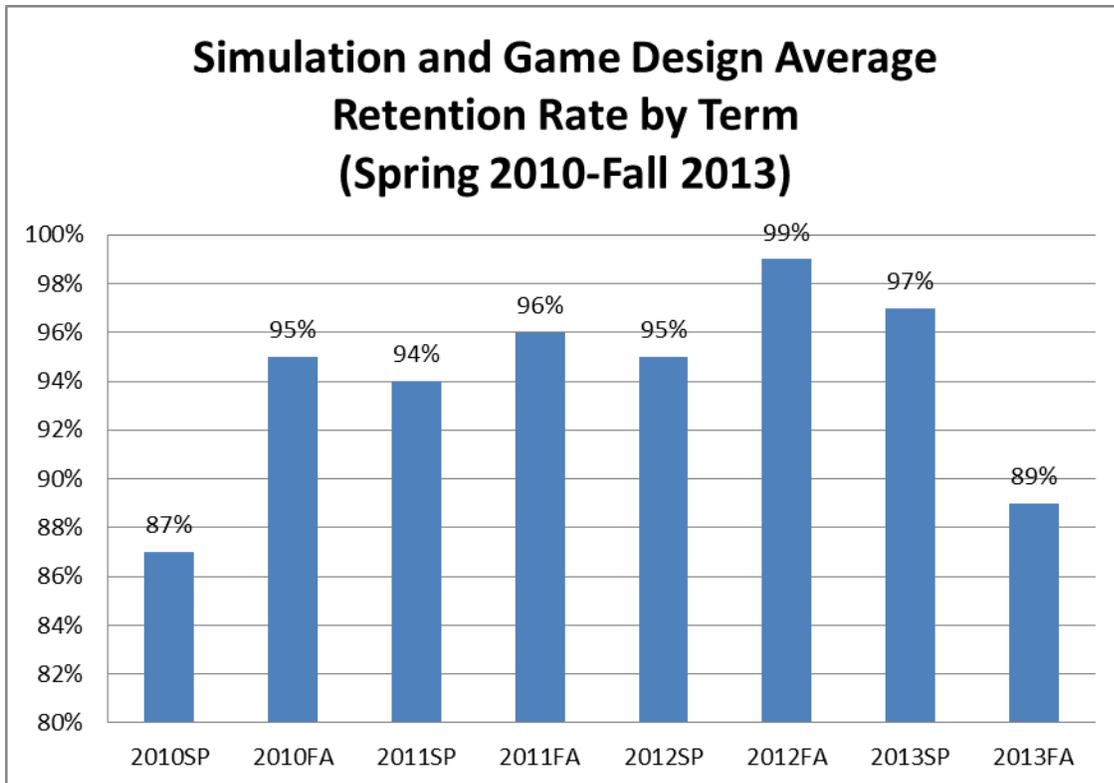
Simulation and Game Development/SGD Basic Graduates (2010-13)



*Program did not begin until 2010.

The number of students who graduated with a major or minor from the program in the past three years have increased from 0 in 2010 up to 21 students in 2013 for game development. Additionally, the students for SGD basic increased from 0 in 2010 up to 32 for 2013. 3D students increased from 2 to 3 from 2011 to 2012; however, they decreased in 2013, resulting in a total of 7 students during 2011-2012.

D. Does the program have a retention plan? If so, please describe retention efforts. List all instructors with their retention rates for the past 3 Semesters. What efforts are made to address faculty members with a retention rate that is less than the program’s overall retention rate and the overall FTCC retention rate? What efforts are made to capitalize on the successes of those instructors with a retention rate higher than the Program retention rate?



*There were no SGD Core Courses Taught During the Summer Semester.

Retention by Instructor per Term for Simulation and Game Development

	2010SP	2010FA	2011SP	2011FA	2012SP	2012FA	2013SP	2013FA
Lockett, Willie	**	**	**	**	*	100%	*	100%
Umland, Stephen W.	**	89%	98%	97%	92%	99%	95%	83%
Galvan, Laura L.	*	*	*	*	*	*	*	90%
Joyner, David O.	**	**	**	**	**	**	**	91%
Kleiner, Kenneth R.	86%	99%	90%	100%	94%	100%	100%	*
Pulsipher, Lewis E.	91%	***	***	***	***	***	***	***
Cameron, Anthony	100%	*	*	*	*	*	*	*
Kallmeyer, Robert W.	77%	98%	94%	95%	100%	100%	100%	***
Black, James A.	*	*	*	81%	***	***	***	***
Whatley, Samuel T.	**	**	**	**	**	96%	*	*

*Did not teach SGD Core Course

**Not yet hired

***Terminated employment

****No SGD Core Courses were taught during the Summer semester.

The program has a retention plan. Our retention efforts include; (1) Referring students to the Success Center, (2) Identifying students needing or assistance with classes and providing help labs, (3) Monitoring students and developing plans with the student to decrease problems with retention. Efforts are made to address faculty members with a retention rate that is less than the program's overall retention rate and the overall FTCC retention rate with faculty mentoring and improved student enrollment to the success center. Additionally, face-2-face mentoring efforts are made to capitalize on the successes of those instructors with a retention rate higher than the Program retention rate. During faculty meetings, this department shares techniques and ideas to improve retention.

E. Does the program lead to certification or licensure exams? If so, please list the exams. (Rates will be provided by the Data Management Technician for Reports in the office of the Director of Institutional Effectiveness at time the program review is released). What were the pass rates of graduates for the past three years? (Rates will be provided by the Data Management Technician for Reports in the Office of the Director of Institutional Effectiveness at time the program review is released).

The program does not currently lead to important certification or licensure. Although available, such items are not currently valued by employers in this industry.

F. If the program prepares students for the labor force, provide an overview of the relevant local, state and national job market. Include potential careers and whether job growth is expected in those areas. Address how program outcomes relate to the skills employers seek in those areas.

A video game graduate can work in many jobs to include employment in the quality assurance role in the overall game development process. According to the U.S. Bureau of Labor Statistics (BLS) Occupational Outlook Quarterly, entry-level work game development jobs can be hard to come by in large studios, but video game developers jobs can also be found in small studios where mobile and social media games are created. Additionally, video design degree can give graduates you a leg up. Game design training can certainly help propel graduates into the video game profession. A game design degree can prepare students to become a video game tester, game programmer with skills needed in a collaborative environment such as the Government, and Independent shops.

G. What is the process for assessing student outcomes and competencies (e.g., student portfolios, written or verbal comprehensive exams, senior or master's theses, review by faculty panel, or capstone projects)? Attach any relevant assessment templates.

As students near their completion of the program, they complete a portfolio class (approved at the state level and to incorporated in the 2015-16 school year) where they are able to build a demo reel or visual portfolio that plays to their strengths. Twice during that semester, they will need to present the current state of their portfolio to a board comprised of their instructors and possibly outside parties. From this meeting, the board will discuss with each student individually the positives and negatives of their portfolio, and then changes they need to make before it is ready for display.

Since they are attempting to master a visual craft, they will need to be able to communicate their abilities through their work without additional explanation. We will teach them to do that effectively.

Students will also complete a capstone project in which they create an animated piece in a group setting, teaching them valuable skills in teamwork.

H. Detail the last formal assessment plan completed by the program. Summarize the results. With the goal of improving student learning outcomes, what changes to the program are/were suggested after analysis of the data outcomes, findings and action planning related to the assessment? How are these improvements being implemented? Please indicate how much progress has been made and what needs further attention.

Tip: Some potential changes are different program admission requirements, incorporating internships or work-based learning experiences, varying instructional methods, enhancing student assessment strategies, integrating technology, better coordinating faculty efforts, and seeking external program accreditation.

X-3.6 Constituency Satisfaction

(Self-Study Team's assessment)

A. What inquiries have been taken in the past three (3) years to determine the level of satisfaction from current students, alumnae, employers, and other relevant groups? Describe the data collected by the program and how it relates to issues such as learning outcomes, employability, and preparation for life after college.

Current inquiries have been taken in the past three (3) years to determine the level of satisfaction from current students, alumnae, employers, and other relevant groups include feedback from returning students. Additionally, social media provides information and success stories of former students. Currently, the data collected by the program is small since the program is less than 5 years old. The data collected from alumnae, employers, and other relevant groups is used to improve lesson material since it relates to issues such as learning outcomes, employability, and preparation for life after college.

B. What were the results of these inquiries based upon the faculty review and analysis of the reported data? Please attach any relevant reports, survey analysis instruments, etc. How has the program responded to suggestions for improvement or findings of dissatisfaction? (Note: The Director of Institutional Effectiveness will provide available trend charts related to job placement rates, employer surveys, graduate surveys, current student surveys and related at the time the program review is released).

Results were used to determine omissions in the curriculum and topics inadequately taught. Curriculum courses were added and/or modified as a result. Software was upgraded to that currently used by potential employers. Student skill sets are being honed to reflect the results of surveying potential employers.

X-3.7 Appraisal and Direction for the Future

A. What are the projected enrollments for this program for the next three years?

I would like to see at least seventy-five new students per school year in the next three years, and would like at least two hundred students enrolled in the program overall. This represents a more than doubling of current student enrollment and is ambitious; however, it is possible with the initiatives I am espousing.

B. Are there opportunities to expand this program (e.g., increase enrollments, add new concentrations, offer distance-learning courses, or increase assistance to graduates of the program with job placement support during program attendance and after graduation)? Please explain. What resources would be required to expand the program successfully?

All these opportunities exist and are being exploited. Active recruiting in regional K-12 schools should increase enrollment. New concentrations in DME using the technologies of gaming but going beyond the gaming industry will build a more diverse student cohort. Online courses in partnership with smaller community colleges leading to 1+1 programs are possible. Job-placement support remains a big issue, but improvement is possible through faculty liaison with industry professionals and Fort Bragg personnel.

If the program does expand significantly, the limiting factors will be faculty and dedicated SGD labs; therefore, a third department member will become necessary, and a third properly outfitted lab will be needed. (VCC213 is available for this purpose but will need computer upgrades)

C. As you reflect on this program review, how would you describe the current health and vitality of the program? What are its strengths? What are some untapped opportunities? Are you optimistic about its future? Why?

I believe the health and vitality of the program are at an all-time high. The program was initiated with good intentions five years ago, but it hit a doldrums after three years due in part to neglect and a lack of innovation. Since I have become chair, I have followed my agenda for change and have succeeded improving the curriculum and the faculty measurably. Our strengths today are the knowledge of David Joyner in animation and 3D technologies, the acquisition of industry-respected software and hardware, and my initiative willingness explore every opportunity to better the program.

The untapped opportunities, as I see them, are expanding the program beyond the gaming industry, and proliferating the use of the technologies that we teach and thus expanding the job base for our students in Fayetteville.

I am optimistic about the future because SGD is still in its infancy and industry and society has only just begun to appreciate the uses for technologies developed for games. I believe that FTCC and our students can play a vital role in introducing these technologies to the economy of Fayetteville.

D. As you reflect on the assessment of student learning outcomes, measures of constituency satisfaction, deliberations of faculty or advisory committees, or any other indicators of program efficiency and effectiveness, what areas require the most immediate attention? What are the program's existing weaknesses and possible threats? Please explain.

I have been addressing the deficiencies in the program over the last two years, particularly the previous inadequacies in our 3D courses, and have measured improvements in constituency satisfaction and student skill sets upon graduation. I expect this trend to continue into the current school year.

I believe the biggest threat to the program is the highly competitive nature of the game industry and the fact that the program trains students for primarily one industry. Coupled with the limited availability of jobs in the Fayetteville area, these facts deter many students from enrolling in the program due to the perceived risk of failing to attain employment. To combat this, I propose the broadening of our focus to include the application of 3D technologies to other industries and endeavors, thereby attracting new students and broadening the base for potential employment after graduation.

E. What specific initiatives are planned as a result of this program review? How will the program take advantage of the strengths and opportunities and also and redress weaknesses and threats?

We will continue to use the initiatives proposed in this review to carry out the improvements necessary to make this program competitive. Increased efforts will be made to improve the job market for students obtaining this degree, and to provide continued educational opportunities for students at four year universities. We are trying in earnest to improve the legitimacy of this field as a pursuit of study by promoting the technologies involved to others outside the gaming industry and community.

F. What is the anticipated timetable for completing these initiatives? Who will be involved? Who will take the leadership role during these initiatives?

The first results of the initiatives I began in 2012 have manifested themselves in the current school year, and the entire process could take another two to three years to complete. At this point, we will know if the outcome will lead to sustainable growth or to a relative ceiling to program growth.

G. Please provide any long term major resource planning.

In the long term, computer hardware and software will need continued upgrading and the department must respond to such new technologies as are introduced into the simulation/game industry. Additional faculty may become required, and it may be prudent to attempt to develop faculty internally and locally by identifying graduates of the program as possible future instructors.

H. Conclusions.

I have worked hard in the last three years to transform the SGD department into a more viable competitor for students and resources at Fayetteville Technical Community College as well in the state education system as a whole. In this respect, I think that I have been largely successful, but the ultimate test of the program's viability will be the ability of our graduates to seek meaningful employment within the field and within the community because this more than anything else will sustain the program.

X-4 Appendices

List of Attachments

Please indicate any supplemental materials submitted with this review document.

Simulation and Game Development

Advisory Committee Meeting

2015-2016

Due to schedule conflicts and the remote locations of some board members, no single, formal advisory board meeting was held this cycle; rather, a series of face-face and online meetings were held throughout the spring of 2016. Members included representatives of the commercial game industry as well as government/military simulation experts.

Changes recommended by the board included updating to industry standard software throughout, making more thorough use of the motion capture equipment the department possesses, and introduce more C# based courses into the programming aspect of the program.

All suggestions of the board are to be implemented as soon as practicable.

Extract from the 2016 Graduate Survey-IE Office

Please indicate your level of agreement with the following statements:

a. I feel confident in my ability to communicate effectively in speaking, writing, reading and listening.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	441	70.2	70.8	70.8
	Agree	177	28.2	28.4	99.2
	Disagree	2	.3	.3	99.5
	Strongly Disagree	3	.5	.5	100.0
	Total	623	99.2	100.0	
Missing	System	5	.8		
Total		628	100.0		

b. I feel confident in my ability to think critically when analyzing problems and making decisions.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	442	70.4	71.4	71.4
	Agree	173	27.5	27.9	99.3
	Disagree	1	.2	.2	99.5
	Strongly Disagree	3	.5	.5	100.0
	Total	619	98.6	100.0	
Missing	Don't Know	2	.3		
	System	7	1.1		
	Total	9	1.4		
Total		328	100.0		

c. My cultural awareness and socialization skills have prepared me for the changing global environment of the 21st century.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	423	67.4	69.0	69.0
	Agree	181	28.8	29.5	98.5
	Disagree	5	.8	.8	99.3
	Strongly Disagree	4	.6	.7	100.0
	Total	613	97.6	100.0	
Missing	Don't Know	9	1.4		
	System	6	1.0		
	Total	15	2.4		
Total		628	100.0		

d. I feel confident in my ability to use and process quantitative information.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	415	66.1	67.2	67.2
	Agree	198	31.5	32.0	99.2
	Disagree	3	.5	.5	99.7
	Strongly Disagree	2	.3	.3	100.0
	Total	618	98.4	100.0	
Missing	Don't Know	3	.5		
	System	7	1.1		
	Total	10	1.6		
Total		628	100.0		

e. I consider myself to be computer literate.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	407	64.8	66.0	66.0
	Agree	191	30.4	31.0	96.9
	Disagree	13	2.1	2.1	99.0
	Strongly Disagree	6	1.0	1.0	100.0
	Total	617	98.2	100.0	
Missing	Don't Know	1	.2		
	System	10	1.6		
	Total	11	1.8		
Total		628	100.0		

Fayetteville Technical Community College

STRATEGIC PLAN 2015-2020



“Serve our community as a learning-centered institution to build a globally competitive workforce supporting economic development”

**P.O. Box 35236
2201 Hull Road
Fayetteville, North Carolina 28303-0236
www.faytechcc.edu**



FAYETTEVILLE TECHNICAL COMMUNITY COLLEGE

P.O. BOX 35236 • FAYETTEVILLE, NORTH CAROLINA 28303-0236

September 21, 2015

Dear Friends of Fayetteville Technical Community College:

Fayetteville Technical Community College (FTCC) weaves a multifaceted pattern of positive influence that is far reaching and widely encompassing throughout the greater communities we serve. FTCC's uniqueness is reflected in a number of ways ranging from the educational perspective that opens its doors to all who seek hope, opportunity, and a brighter tomorrow via intellectual growth and job success by offering meaningful educational opportunities which changes lives for the better. Manifestation of this goal is reflected in the most recent college commencement in which we graduated our largest class of 1,985 students who launched their lives to more positive outcomes and possibilities.

FTCC is one of the largest employers in Cumberland County, which provides an outstanding place to work in an atmosphere that bolsters beauty, diversity, encouragement, and respect. In addition, FTCC's graduates and staff engage in our communities, across the nation, and internationally by contributing their skills, talents, volunteer time, and leadership skills through many avenues which fuels economic prosperity and service. The spiraling effect of all these combined characteristics is impressive and certainly something to celebrate. However, in our quest to resist the status quo and to continue to pursue greater excellence, we re-examine ourselves and how we serve others, setting our sights for more impressive achievement and higher benchmarks for successful service.

The 2015-2020 Strategic Plan centers on institutional goals which universally revolve around four primary areas: establishment of measurable goals in response to meeting student and community needs; establishment of a culture reflecting quality customer service; sustainability of excellent fiscal responsibility, accountability, and stability; and continued support of economic development through a greater focus on workforce preparedness. We approach these institutional goals with passion, enthusiasm, and expectation of a greater awareness of ourselves as a structured unit—openly recognizing our strengths and shortcomings—and responding by developing, implementing, and monitoring our executions to measure results.

The outcome of our efforts will, in turn, result in greater service to our students and others whom we serve through our College mission. Embracing teamwork with positive interactions which build on the strengths of each individual's talents will position us to achieve success and will enhance the educational experience to make it more meaningful and productive.

I welcome you to the next phase of our journey and thank you for your continued enthusiasm, support and engagement!

Sincerely,

A handwritten signature in cursive script, reading "J. Larry Keen".

J. Larry Keen, Ed.D.
President

**FTCC Institutional Goals
2015-2020**

- 1. Respond to student and community needs through measurable goals**
- 2. Establish a culture of quality customer service**
- 3. Ensure fiscal responsibility, accountability and financial stability**
- 4. Focus on workforce preparedness to support economic development**

Institutional Goals were originally adopted by the FTCC Board of Trustees, on September 16, 2013 and reaffirmed the goals on September 21, 2015.

Institutional Goal: 1 Respond to student and community needs through measurable goals

1. FTCC will increase graduation rates to 25% by 2018.
2. Increase headcount enrollment by 3% annually.
3. Increase gainful employment (employment in field of study) of students.
4. Meet or exceed the NCCCS Performance Measures goals.
5. Achieve 90% satisfaction rate on all surveys and course evaluations.

Strategies:

- Promote student successes and College Best Practices with a targeted goal of 50+ information releases and/or presentations annually (2)
- Use the Educational TV channel to provide timely information/programming to the community (2)
- Partner with community organizations to connect students to potential employers (3)
- Engage stakeholders to develop and expand College funding opportunities melding community and student needs. (1, 2, 3)
- Align the FTCC Foundation, Inc. goals and outcomes to support the College. (2, 3)
- Reduce the number of students testing into developmental classes. (1, 2)
- Administer student course evaluations to assess the satisfaction rates for course and programs of study. (1, 5,)
- Administer an annual non-returning student survey to assess the reasons for not continuing studies at FTCC. (1, 5,)
- Administer an annual graduate survey to assess satisfaction rates for courses and programs of study. (1, 5,)
- Improve assessment plans with documented evidence of outcomes. (1)
- Create and administer a professional development program to support academic quality for student success. (1-5)

- Promote the use of research such as Economic Modeling Specialists International (EMSI) studies to identify and benchmark successes at FTCC as well as other colleges that could be replicated. (1-5)
- Maintain memberships in relevant professional organizations and groups. (1-5)
- Promote faculty-staff engagement in public relations, community service, and College activities. (1, 2, 3, 5)
- Encourage faculty and staff to complete higher levels of relevant education and/or degree completion. (1, 2)
- Encourage Return to Industry Training. (1, 2)
- 100% of new instructors will successfully complete the Excellence in Teaching course prior to teaching their first class. (1, 5)
- More clearly define and articulate expectations for the role of instructional leaders. (1, 5)
- Create an effective Instructional Leaders course. (1, 5)
- Standardize blackboard shells to ensure more active learning for students. (1, 5)
- Increase Work-Based Learning and intern work opportunities for students (1, 2, 3)
- Provide a safe and secure learning environment. (5)

Institutional Goal: 2 Establish a culture of quality customer service

1. Success of our students is our number one priority
2. Competition for services requires that we maintain the highest standards and responsiveness to the needs of our customers and stakeholders.
3. Create a welcoming and service oriented culture delivering support with minimal referrals.
4. Achieve 90% satisfaction rate on customer service survey.
5. Consistency of service and information will be maintained across the College.

Strategies:

- Explore the development of an Excellence in Service (EIS) course. (1-5)
- Ensure that faculty and staff understand their individual responsibility to provide high quality customer service. (1-5)
- Provide well maintained and safe campuses demonstrating our pride in FTCC. (4)
- Resolve customer needs with minimal referral to others. (3)
- Answer the phone within 3 rings. (1-5)
- Educate all employees on functions and activities of College departments to minimize referrals. (2)
- Incorporate advanced technology that can help to eliminate or reduce on-campus visits and lines. (1, 4, 5)
- Triage lines to move customers to appropriate College locations quickly. (3, 4)
- Ensure signage is visible, adequate and accurate directing visitors to correct locations. (3, 4)
- Require all hiring managers to include one or more interview questions focused on customer service. (1-5)
- Create and implement incentive program to recognize employees that excel in providing customer service. (1-5)
- Conduct annual surveys of faculty, staff and students to provide data related to the College climate and customer service/support. (4)

- Create and deliver professional development classes to educate employees on quality customer services standards and expectations. (1-5)
- Continue to refine the two FTCC website portals. One website is focused for students, ensuring it remains user-friendly and focused to student needs while the other website is focused for internal faculty/staff use and required mandatory reporting elements under the Higher Education Act and other local, State and Federal legislation requirements. (1, 3)
- Promote equal employment opportunities in all aspects of the hiring process. Ensure one DDI targeted selection STAR criteria evaluates customer service orientation of all prospective candidates. (2, 3, 5)
- Include quality customer service and support as a measured item on annual performance appraisals. (5)
- Provide adequate training to employees to ensure the Continuity of Operations (Safety) and Emergency Preparedness Plan can be implemented quickly and accurately in times of emergency. (2)

Institutional Goal: 3 Ensure fiscal responsibility, accountability and financial stability

1. Plan and prepare annual budgets that enable the College to be responsive to community needs.
2. Maximize strained resources by enhancing productivity and accountability.
3. Focus resources on the core mission of teaching by strategically budgeting funds in areas that result in the greatest return on investments.
4. Streamline operations with a focus on efficiencies.
5. Monitor current spending and forecast future funding requirements to sustain financial stability.
6. Institute a data-driven decision process based through assessment of needs.

Strategies:

- Submit accurate budget decision packages in a timely manner to support division operations and support an institutional goal related to the request for funding. Initial decision packages will be submitted annually in May. (1-6)
- Ensure appropriate communication among affected areas. (1, 2, 4)
- Monitor monthly budget reports and submit a budget reconciliation mid-year. (2, 4, 5, 6)
- Consistently review the salary plan and hiring scale to keep salaries for staff and faculty comparable to market. (1-6)
- Communicate with all levels of the College to stay abreast of the future needs of the community and forecast future funding needed to meet these needs. (1-6)
- Standardize technology across the campus to reduce maintenance cost and maximize replacement parts. (2, 4)
- Cascade technology when replacements are made to reduce cost. (2, 4)
- Communicate the College's needs to the FTCC Foundation. (2)
- Create an effective grant and external funding program. (3)

Institutional Goal: 4 Focus on workforce preparedness to support economic development

1. Strengthen economic development in the College's service area.
2. Establish an effective job placement office.
3. Expand veterans support services.
4. Analyze Academic Programs to modify program/course offerings to meet employer needs.

Strategies:

- Align curriculum and continuing education programs of instruction/course offerings with reported needs of employers, as reflected in the annual employer survey. (4)
- Expand student use of Career Coach and Internship.com during the admissions, registration and advising processes. (1)
- Analyze Academic Advisory Committee data, retention and graduation trends by program, GAP studies, Labor Market information by program area, and annual employer surveys. (1-5)
- Enhance outreach to business/industry to understand and define existing and future workforce training needs. (1)
- Expand the use of customized industry training funds. (1, 3, 4)
- Engage with the Economic Alliance in the recruitment, expansion and retention of businesses. (1, 4)
- Seek additional funding for the NC Military Business Center to better engage businesses winning government contracts and providing post-contract assistance. (1, 3)
- Create career pathways for students and graduates to engage with employers to include defense contractors. (2, 3)
- Promote and solicit scholarship and funding opportunities that parallel employer needs and student curriculum. (1-4)
- Continue enhancements to support services and academic programs to meet the changing needs of the military and veteran students. (3)

Approved FTCC Board of Trustees on September 21, 2015