

BOARD OF HIGHER EDUCATION

REQUEST FOR COMMITTEE AND BOARD ACTION

COMMITTEE: Academic Affairs

NO: AAC 13-12

COMMITTEE DATE: December 4, 2012

BOARD DATE: December 11, 2012

APPLICATION OF FITCHBURG STATE UNIVERSITY TO AWARD THE BACHELOR OF SCIENCE IN GAME DESIGN

MOVED: The Board of Higher Education hereby approves the application of **Fitchburg State University** to award the **Bachelor of Science in Game Design**

Upon graduating the first class for these programs, the University shall submit to the Board a status report addressing its success in reaching program goals as stated in the application and in the areas of enrollment, curriculum, faculty resources, and program effectiveness.

Authority: Massachusetts General Laws Chapter 15A, Section 9(b)

Contact: Aundrea Kelley, Deputy Commissioner for P-16 Policy and Collaborative Initiatives

**BOARD OF HIGHER EDUCATION
December 2012
Fitchburg State University
Bachelor of Science in Game Design**

INTENT AND MISSION

Fitchburg State University (FSU) has filed an expedited application for the approval of a proposed Bachelor of Science degree in Game Design program.

The institution holds that this new major is consistent with and supports its' goals mission, vision, and core values. The Game Design program proposal blends a professional education with liberal arts & sciences by drawing on a diverse range of course offerings, including Computer Science, Art, English, and Communications Media. The proposed major is planned to extend beyond the classroom to include professional and co-curricular opportunities in the form of internship and practicum experiences. It is designed to provide leadership and support for the economic needs of the Commonwealth by training students to participate and to succeed economically in the growing digital games industry in Massachusetts. The program of study is planned to prepare students for a global society through curricular innovation and program development and fostering civic and global responsibility through game theory courses. The proposed major is designed to employ innovative uses of technology across courses, in student work and learning, and in the campus Games Library. It is designed to build partnerships within the community to provide real-world opportunities for students, through pairing with MassDIGI¹ and game studios, and internships. The proposed program is meant to offer equitable access to high quality programs and services by creating the only public IHE major in Game Design.

The Bachelor of Science Degree in Game Design proposal has obtained all necessary governance approvals on campus and was approved by the FSU Board of Trustees on July 25, 2012. The required letter of intent was circulated on August 29, 2012. No comments were received.

NEED AND DEMAND

National and State Labor Market Outlook

According to the Entertainment Software Association, computer and video game companies directly and indirectly employ more than 120,000 people in 34 states. The average salary for direct employees is \$89,781. In Massachusetts, over the five-year period from 2005 to 2009, the industry showed 8.86% annual growth, employing 1,295 people. In October 2010, the Worcester Business Journal reported 76 firms and approximately 1,200 jobs in the industry. As of April 2011, approximately 110 companies across the state self-identified as participants in the sector, with a presence in multiple

¹ *The Massachusetts Digital Games Institute is a statewide center, designated by the Commonwealth, for academic cooperation and economic development across the Massachusetts digital and video games ecosystem.*

areas of the state. The top industry oriented local site had 242 jobs listed as of June 13, 2012.

Student Demand

Fitchburg State University is the host of the annual, student-led, Gamecon™ event. Students competitively play and discuss the latest games and gaming technologies. At the spring 2012 gathering, students were invited to participate in a survey regarding the proposed Game Design program. Of the 45 students completing the survey, 76% indicated a desire to take courses in gaming, and 73% indicated interest in a game design major. Another 4% specified interest in a minor rather than a major. Several students who did not indicate interest in the program qualified their response by indicating they were a junior or senior in another program and too far along to change majors, but would have been interested had the program been an option earlier. Beyond local demand, each year students taking the SAT indicate their intended major. In the last year, there has been a 57% increase in the number of students nationally planning to major in game design (from 6,802 in 2011 to 10,712 in 2012). In New England, the number increased from 391 to 551 students, a 41% increase during the same time period.

Duplication

Game design is not offered at any Massachusetts public institution at this time. If approved the proposed program would be the first in a public institution in New England. A number of institutions offer gaming courses, and five private institutions of higher education offer majors in Game Design or similar programs. Fitchburg State University contacted these IHEs and gathered information regarding enrollments and trends for 2012-2013:

1. Becker College reported enrolling 90 of the “just over 380 applicants” they had for 2011 and planned to enroll 100 of the 550 applicants for 2012.
2. Champlain College indicated they accepted 68% of 111 applicants for 2011, and planned to accept 30% of 234 applicants for 2012.
3. Rochester Institute of Technology (RIT) showed 900 applicants for 2011 and had over 1,200 applicants for 2012. RIT plans to accept 300 students into the program for 2012.
4. Worcester Polytechnic Institute (WPI) indicated that specific program statistics were not available for individual programs as students declare their major after being admitted. WPI does not track program interest prior to admission. WPI had the only program that reported a slight decrease in enrollments in the major, with 137 undergraduates enrolled in the program for 2012, down from 144 in 2011.
5. Northeastern shared general data, with approximately 300 applicants for their program, of which they plan to enroll 100 students.

All programs but one of those reviewed for duplication show student interest to exceed program enrollment capacity.

ACADEMIC AND RELATED MATTERS

Admission

Students seeking admission to the Game Design major will be expected to meet the undergraduate admission standards set forth by the Board of Higher Education for both freshmen and transfer applicants. If demand for the program exceeds capacity, then the university will consider implementing the more stringent admission standards currently utilized for its Film and Video Production and Photography programs in Communications Media. These include a priority deadline of January 1st and a preferred profile of a 3.0 GPA with a 1000 combined Math and Critical Reading SAT score.

Projected Enrollment

	# of Students Year 1	# of Students Year 2	# of Students Year 3	# of Students Year 4*
New Full Time	32	32	32	32
Continuing Full Time	0	32	64	96
New Part Time				
Continuing Part Time				
Totals	32	64	96	128

Program Effectiveness

Goal	Measurable Objective	Strategy for Achievement	Timetable
1. Hire qualified faculty for the program.	1. Hire one faculty member each year for the first 3 years of the program.	1. Collaborate with HR and Communications Media department to establish search committees.	1. In 2013, 14 and 15 AY, hire one faculty member to teach in the Game Design program each year.
2. Admit qualified students into the program.	2. Admit 32 qualified students to begin the program in the 2014 AY and admit an additional 32 students each year thereafter.	2. See information on marketing the program for strategies to be employed.	2. Admit 32 students for fall of AY14, an additional 32 for AY15, and an additional 32 students each year thereafter.
3. Create two computer labs, Game Workshop room and Game Library/Lounge.	3. Facilities for the new program including two computer labs, a Game Workshop room and Game Library/Lounge will be completed.	3. Faculty and VPAA to collaborate with the VP of Administration and Finance to coordinate timelines and specific facility design.	3. Facilities to be completed during the 2013 AY and following summer.
4. Establish internship sites for students.	4. Each year for the first 3 years, a minimum of 20 internship sites will be established for students in the Game Design program.	4. Faculty teaching in the program will work with the Internship Coordinator in the Communications Media department to establish sites.	4. Establish 20 sites in AY 14, another 20 sites in AY 15 (the first year students will be completing internships) and another 20 sites in AY 16.
5. Perform a program review of the Game Design program after 5 years (AY18), and every 5 years thereafter.	5. Using existing comprehensive program review criteria, the department will complete a self-study of the program and an expert external to the university will assess the program in 2018 and every 5 years thereafter.	5. AVPAA to add Game Design to the program review rotation. Director of Assessment to work with the department to establish assessment methods.	5. Initial program review in AY 2018 and every 5 years thereafter.

Curriculum (Attachment A)

Students will complete the curriculum outlined in the four-year plan of study to meet graduation requirements. The program is 120 credit hours and can be completed in eight semesters. It is anticipated that degree completion rates will be comparable to rates in the Communications Media program, which hover around 60%. All earned credits would be transferrable to other institutions subject to individual institutional policies.

The proposed Game Design major is planned to lend itself to an integration of liberal arts and professional courses because the program is designed to combine technology and the arts. Required courses relate primarily to the elements of game design and development. The proposed program includes a semester-long internship during the final semester. As part of the major, students will also take elective courses in the following four areas: Interactive Media and Game Design Elements, Art and Design, Programming and Logic, and Writing. Students must also complete the university's General Education Requirements.

Game Design students will, through a combination of required courses and electives, be exposed to and be expected to attain competency in the following concepts, practices and skills:

- Analytical understanding of games, game-play, and game elements
- An historical and critical perspective of games and design
- Experience working in a player-focused iterative design process
- Proficiency in several digital 2D and 3D game and level design engines
- Principles of computer programming and logic
- Proficiency with several programming/scripting languages
- Team-based planning and production process
- Foundation in traditional art as well as 2D and 3D art and visual design for games
- Games as media of communication and as aesthetic expression
- Theory and practice of serious games as a means of learning

Field and Clinical Resources

The proposed major extends beyond the classroom to include professional and co-curricular opportunities, in the form of internships, practicum, and serious games partnerships with clients. A unique feature of the proposed Fitchburg State University Game Design program is a required one-semester 12-credit-hour internship. The proposed curriculum is designed to prepare students to succeed in three aspects across a diverse range of course offerings, including Computer Science, English Studies, and Art.

To participate in a proposed Game Design internship, students will be required to have a GPA of 2.5 or better. All internship proposals will be reviewed by a faculty sponsor and further approved by the Department Chair. The Internship is planned to be the capstone graduation requirement for all Game Design majors, occurring during the final semester prior to graduation. Students spend a full semester preparing for internship, completing a series of required seminars, developing and defending their portfolios before a faculty committee, and conducting an exit interview with the Internship Coordinator to determine

internship placement. All internship placements are competitive, based on a student's academic performance, portfolio quality, and professional demeanor.

RESOURCES AND BUDGET

Faculty and Administration

The proposed Game design program will be housed in the Department of Communications Media. The institution currently has two faculty members who will teach in the proposed program. Plans are to hire an additional faculty member each year for the first three years of the program. Additional professional development funds have been provided to faculty developing the proposal and it is expected that this support will continue as the program is nurtured and developed. Adjunct faculty will be hired as needed to supplement specific areas of expertise during the programs' development. The department already employs a full-time Internship Coordinator who will oversee internships for this program. It is anticipated that a part-time assistant will be hired to support the Coordinator with administrative tasks.

Affiliations and Partnerships

The Department of Communications Media listed 174 approved local, state, national, and international placement sites in 2010. It is anticipated that this list will expand to include more Game Design internship sites. The department's Internship Handbook guides students and site partners on the terms and expectations for the institution and the professional organization in which internships are conducted. The Internship Handbook also guides students, faculty and supervisory staff on relationships, responsibilities and the learning experiences that should be part of each placement.

Library and Information Technology

Library, information technology and other equipment needs have been discussed with corresponding departments at the institution and budget estimates are based upon these discussions. The institution's library has holdings that will serve the program initially. Adding on-line resources will be needed to supplement the existing holdings.

Facilities and Equipment

The institution plans to establish two computer labs specifically configured with tools required for Game Design as well as a Game Workshop room featuring computer workstations for seminars and small group work areas. A Game Library/Lounge is also planned to enable students to research, play-test, and experience games together on a variety of systems. The Game Library/Lounge area will be housed in the Communications Media department. The financial support needed for game computer labs, workshop and library/lounge have been included in the start-up costs cited in the budget.

Fiscal (Attachment B)

The fiscal resources needed to launch the proposed program are planned to come from budget reallocations across the campus, including, but not limited to the capital budget, Extraordinary Budget Request Funds (EBRQs), and the President's Fund. It is estimated that if the institution is able to recruit a full class each year, then it is expected

that income from the first and second year will exceed costs, including start-up, by the second year of the program. The institutions' projections indicate that income will continue to exceed expenses in subsequent years.

EXTERNAL REVIEW AND INSTITUTIONAL RESPONSE

The proposed program was reviewed by Joshua Buck, MFA, Program Director of Game Art & Animation at Champlain College in Burlington, VT and Mr. Benjamin Cavallari, Associate Product Manager/University Relations at Turbine Inc. / Warner Brothers Games in Needham MA and adjunct faculty member at Champlain College, VT.

The reviewers report expressed confidence in the proposal and enthusiasm for the multidisciplinary approach to student learning. The reviewers expressed that the proposed Game Design program had solid potential, and that the faculty and president, were strongly supportive. They suggested that the yet-to-be-built-facilities described, should be more than adequate to support the program. The reviewers also asserted that the combination of liberal arts and art history with technical skill development provided significant depth to the proposed program. They further concurred that having a diverse, inquiry based general education as a backdrop to a Game Design program was a strength that employers increasingly seek in their potential hires.

An overarching concern of both reviewers is the depth of study required for specialization in Game Design, particularly in the areas of art and programming. The reviewers suggested that the proposed ideas of "soft specializations", in which students develop some skill in specific areas, may present limitations for on the job application. They recommended that because the degree as proposed looks to have the flexibility to become more specialized, the institution should plan to move the program in this direction. Another concern expressed was that meaningful internships at a game development studio can be 'difficult to land'. Whether and how other placement options add the same value to student learning seemed unclear. The reviewers advised that the institution continue to expand relationships with the many industry leaders in the area to give students opportunities to professionally connect and to experience relevant internship and networking successes. The reviewers additionally encouraged professional development opportunities for students to come from the institution's associations with professional groups and industry events which are numerous and accessible in the region.

The institution responded that a "soft-specialization" preparation strategy for students is intentional. Such an approach will prepare students to meet current and future industry needs. The "soft-specialization" breadth is intended to equip students to develop within the profession and for the long-term. The institution purports that beyond core knowledge of a particular application or specific software suite, students will leave the proposed program agile, curious and ready to work in a changing media industry environment. Ongoing and close assessment of student production and skills will help program faculty to identify areas where more depth can be added through the creation of upper-level specialized courses.

The institutional response also pointed to the department's proposed placement process as one that includes a portfolio assessment. The response further

underscored the department's track record locating and landing professional sites across a wide cross-section of the media industry, from small design studios to corporate advertising firms, Hollywood film studios, and national TV networks. Fitchburg State University will bring these connections and networks to bear on Game Design internships, drawing on prior successes to build further placements.

STAFF ANALYSIS AND RECOMMENDATION

Staff thoroughly reviewed all documentation submitted by **Fitchburg State University** and the external reviewers. Staff recommendation is for approval of the **Bachelor of Science Program in Game Design**.

Curriculum Outline (Attachment A)

Undergraduate Program Curriculum Outline
(Insert additional rows as necessary.)

Required (Core) Courses in the Major (Total # courses required = 24)		
<i>Course Number</i>	<i>Course Title</i>	<i>Credit Hours</i>
COMM 1105	Intro to Communication & Media Studies	3
GAME 2XXX	Elements of Game Design (COMM 3380)	3
GAME 2XXX	Introduction to Game Art NEW COURSE	3
GAME 3XXX	Game Design Workshop NEW COURSE	3
GAME 3XXX	Game Level Design NEW COURSE	3
GAME 35XX	3D Game Development NEW COURSE	3
GAME 35XX	Advanced Game Workshop NEW COURSE	3
GAME 4XXX	Game Studies Seminar NEW COURSE Fulfills Junior Writing Requirement	3
COMM 4950	Internship Or qualified capstone project of equal rigor	12
	Sub Total Required Credits	36
Elective Courses (Total # courses required = 8) (attach list of choices if needed) All Majors must complete EIGHT electives, with at least one elective from each category (A, B, C, D):		
	A. Interactive Media & Game Design Electives	
GAME 35XX	Serious Games NEW COURSE	3
GAME 35XX	Contemporary Issues in Gaming NEW COURSE	3
COMM 3304	Interactive Media Project Design	3
COMM 3305	Interactive Multimedia I	3
	Interactive Multimedia II	3
COMM 3308	Interactive Media Seminar	3
	B. Art & Design Electives	
ART 1650	Three-Dimensional Design	3
ART 2200	Life Drawing	3
ART 2250	Drawing II	3
COMM 3XXX	3D Modeling I NEW COURSE	3
COMM 3XXX	3D Animation I NEW COURSE	3

COMM 3309	Interface Design	3
COMM 3890	Computer Graphic Design	3
COMM 3880	Typography	3
COMM 3940	Motion Graphic Design	3
MUSC 1400	Intro to Music Technology	3
MUSC 3760	Film Scoring	3
	C. Programming & Logic Electives	
CSC 2XXX	Game Programming NEW COURSE	3
CSC 1900	Discrete Math	3
CSC 2560	Systems Programming	3
CSC 3200	Programming Languages	3
CSC 3500	Object-Oriented Programming	3
PHYS 2400	General Physics II	4
	D. Writing Electives	
GAME 3XXX	Creative Writing for Games NEW COURSE	3
COMM 3470	Documentation Design	3
ENGL 3500	Creative Writing	3
ENGL 3510	Fiction Writing	3
	Sub Total Elective Credits	24
<p>Distribution of General Education Requirements List of General Education Offerings Liberal Arts and Sciences Core Outline Start Date: Fall 2008 Curricular Clusters Core (36 credits) 1. Science, Math and Technology: 4 courses (Minimum 12 credits) 1 math course 1 lab science course 1 health/fitness related course—currently those courses approved by the Exercise and Sports Science department 1 elective 2. Citizenships and the World: 3 courses (Minimum 9 credits) 1 history course 1 human behavior course 1 elective 3. The Arts: 5 courses (Minimum 15 credits) 1 art or music course 1 literature course Writing I and II 1 elective Global Diversity: Two of the courses taken within the three clusters must have a Global Diversity designation. These courses provide a context for understanding the political, economic, cultural, and historical events or experiences of other countries, including those that are non-Western. (Western means Europe—including Russia—and North America.) At least one of the two courses must address the relationship of two or more global regions. GDC=Global Diversity Citizenship GDCN=Global Diversity Citizenship non-Western</p>		# of Gen Ed Credits = 48

GDA=Global Diversity Arts GDAN=Global Diversity Arts non-Western Advanced Options In addition to the 36-credit core, students must select from three LA&S options. Option A: 6 credits in a foreign language <i>and</i> 6 credits of LA&S coursework at or above the 2000 level. Option B: 12 credits (with a minimum of six at or above the 2000 level) in a single discipline outside of the student's first major. Option C: 12 credit unique curriculum based on the student's interests, needs or goals and with advisor assistance. The curriculum, with a statement of rationale, must be approved by the advisor, department chair and the appropriate dean and then filed with the registrar. The curriculum must be submitted before the student has completed 60 credits. No more than one course within this option may be completed before the curriculum has been approved.		
Science, Math and Technology: 4 courses	12	
HEALTH AND FITNESS REQUIREMENT: (at least three credits required) OTHER SCIENCE, MATH AND TECHNOLOGY COURSES:		
Citizenships and the World: 3 courses	9	
HISTORY REQUIREMENT: (at least one course required) HUMAN BEHAVIOR REQUIREMENT: (At least one course required)		
The Arts: 5 courses	12	
ARTS CLUSTER: (ART) (Minimum 12 credits)		
WRITING REQUIREMENT:		
ARTS OR MUSIC: (One course required) LITERATURE COURSES: (One course required)		
Sub Total General Education Credits		48
Curriculum Summary		
Total number of courses required for the degree		17 including internship
Total credit hours required for degree		120
Prerequisite, Concentration or Other Requirements: Required LAS Courses:		
ART 1400	Drawing 1	3 cr
ART 1600	Design	3 cr
COMM 2XXX	History of Interactive Media	3 cr. NEW COURSE
CSC 1500	Computer Science I	3 cr.
CSC 1550	Computer Science II	3 cr.
PHYS 2300	General Physics I	4 cr.

Program Budget (Attachment B)

One Time/ Start Up Costs		Annual Expenses			
		Year 1	Year 2	Year 3	Year 4
	Cost Categories				
	Full Time Faculty (Salary & Fringe)	\$80,000	\$160,000	\$240,000	\$240,000
	Part Time/Adjunct Faculty (Salary & Fringe)	\$18,000	\$36,000	\$18,000	\$18,000
	Staff	-0-	-0-	-0-	-0-
	General Administrative Costs	-0-	-0-	-0-	-0-
\$12,000	Instructional Materials, Library Acquisitions	\$3700	\$3700	\$3700	\$3700
\$289,500	Facilities/Space/Equipment	\$3000	\$3000	\$4000	\$4000
	Field & Clinical Resources		\$27,000	\$27,000	\$27,000
\$5,000	Marketing				
	Other (Specify)				
\$306,500	TOTALS	\$104,700	\$229,700	\$292,700	\$292,700

One Time/Start- Up Support		Annual Income			
		Year 1	Year 2	Year 3	Year 4
	Revenue Sources				
	Grants				
	Tuition and Fees	\$279,296	\$558,592	\$837,888	\$1,117,184
	Departmental				
\$306,500	Reallocated Funds				
	Other (specify)				
	TOTALS	\$279,296	\$558,592	\$837,888	\$1,117,184