FAU
BOARD OF TRUSTEES
Florida Atlantic University

Item: AS: A-1

Wednesday, January 26, 2011

SUBJECT: APPROVAL OF A NEW ACADEMIC PROGRAM: MASTER OF FINE ARTS IN MEDIA, TECHNOLOGY AND ENTERTAINMENT (09.0702)

PROPOSED BOARD ACTION

Approval of a new academic program, a Master of Fine Arts in Media, Technology and Entertainment (09.0702).

BACKGROUND INFORMATION

The School of Communication and Multimedia Studies in the Dorothy F. Schmidt College of Arts and Letters and the Department of Computer and Electrical Engineering and Computer Science in the College of Engineering and Computer Science jointly propose the establishment of a new Master of Fine Arts degree in Media, Technology and Entertainment. This proposed interdisciplinary graduate degree couples faculty in film, video, interactive media and computer animation with computer science and engineering faculty, with the aim of fostering in their graduate students innovative approaches to digital entertainment. The proposed MFA will contribute to enhanced STEM training and prepare students for the evolving industry by fostering connections between science, technology, engineering, and varied media industries.

On December 15, 2010 the BOT Committee on Academic and Student Affairs reviewed and recommended BOT approval of this new academic program.

IMPLEMENTATION PLAN/DATE

Fall 2011

FISCAL IMPLICATIONS

Virtually all of the funding support for this program will derive from the reallocation of existing resources, principally faculty time and effort. Modest investment of new funds by year five will be fully justified by enrollment growth in the program and assessment of outcomes for program graduates.

Supporting Documentation: **MFA in Media, Technology and Entertainment Executive Summary**

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Florida Atlantic University - School of Communication and Multimedia Studies

MFA in Media, Technology and Entertainment

Executive Summary

The proposed degree is an interdisciplinary MFA in Media, Technology and Entertainment involving the Multimedia Studies degree program in the School of Communication and Multimedia Studies in the College of Arts and Letters; and the Department of Computer Science and Engineering in the College of Engineering and Computer Science at Florida Atlantic University. The proposed degree will enable FAU students to contribute to the growing digital imagery enterprise that is rapidly expanding throughout FAU's service area.

The proposed graduate degree combines film, video, interactive media and computer animation faculty with computer science and engineering faculty, with the aim of fostering in their graduate students innovative approaches to digital entertainment that stretch creative and scientific boundaries. In other words, faculty will challenge themselves and their students to think in artistic, scientific and industrial terms about: 1) innovative forms of digital media practice within film and video production, video gaming, web-based interactive media, and mobile media; 2) new pipeline models for media production, such as 3D processing for film and game development and physics-based medical and scientific visualization; 3) practical applications, such as interface design, hardware and software, enhanced content delivery, and ubiquitous computing.

Goal 2 of FAU's Strategic Plan is to meet statewide professional and workforce needs. FAU is committed to expending academic and fiscal resources to train professionals in "nursing, teaching and advanced technology." The proposed graduate degree program is consistent with that goal. The proposed MFA also falls within the current SUS inventory of academic degree programs offered in areas of programmatic strategic emphasis; in particular, it will expand the College of Arts and Letters contribution to STEM (Science, Technology, Engineering and Mathematics) education, building on the College's already existing undergraduate contribution to STEM, the BA in Multimedia Studies. The January 2010 report issued by the Florida Center for Research in Science, Technology and Mathematics, a study funded by the U.S. Department of Labor's Employment and Training Administration, outlines the need for a STEM-proficient workforce to advance Florida's innovation economy: "The findings indicate that 15 of the 20 fastest growing jobs through 2014 will require substantial math and science preparation, and that Florida, as well as the United States more generally, is failing to develop an adequate supply of STEM-capable workers. Florida's increasingly knowledge-based economy is driven by innovation, which has as its foundation a dynamic and well-educated workforce equipped with STEM knowledge and skills. While the economy calls for a larger and more proficient STEM workforce, enrollment and success in those courses is declining. As a state and nation, we are losing ground." Meeting this challenge, the proposed MFA will contribute to enhanced STEM education and training to help position the Florida SUS as a leader in market-relevant STEM talent development and retention. The program takes a dynamic approach to fostering connections between science, technology, engineering, and the varied media industries that are

driving and benefiting from applied innovation.

According to the U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2008/2009 Edition, Computer Software Engineers and Multimedia Artists and Animators are among the occupations projected to have above average growth over the 2006/2016 decade. Projected growth for Computer Software Engineers is 38% and for Multimedia Artists and Animators the projected growth is 16 %. The average income for both job categories was above $80,000.

A number of universities in the Florida SUS offer undergraduate degrees in computer science as well as in some form of media production. These programs are traditionally separated and housed in different colleges. However, with the growth of shared digital technologies, computer science and new media and animation faculties increasingly speak the same technical language and deal with different aspects of new media applications.

The BA in Multimedia Studies in the School of Communication & Multimedia Studies is the only academic program in the College of Arts and Letters included in the NET (nursing, teaching and advanced technology) categories targeted for growth in the Strategic Plan. It is the only academic program in the College of Arts and Letters that is included in the STEM (Science, Technology, Engineering and Mathematics) categories targeted as potential growth areas by the state of Florida. The proposed MFA builds on the School's existing commitment to targeting such proficiencies.

The following Florida SUS universities offer graduate degrees in digital media:

1) UCF has a strong relationship with Walt Disney Enterprises and with Universal Pictures, both of which have offices and production facilities located in Orlando. The College of Arts and Humanities offers an MFA in Film and Digital Media which intends "to educate the next generation of filmmakers and media entrepreneurs…" This MFA prepares students to work in the Hollywood style cinema industry. UCF also offers an MS in Interactive Entertainment. The program "provides specific skills in the area of game design." It is part of the Florida Interactive Entertainment Academy. This program is supported by and feeds local industry.

2) UF offers an MS/MA in Digital Arts & Sciences in the Digital World Institute supported by the College of Fine Arts and the College of Engineering. The aim of this Institute is "to develop fluency in technologies and design practices…. " Graduates "seek employment in the creative services sector…from traditional cinema to interactive games; from broadcast media to online networks…" According to the Digital Worlds Institute website, the work of affiliated faculty and researchers "is focused in two areas: the first is integrating the Arts into Science, Technology, Engineering and Mathematics education…The second is Health Science, with projects using interactive virtual environments in therapeutic applications including autism, post-traumatic stress disorder and reducing substance abuse and risky behavior in under-served populations."

The difference between the UCF and UF programs and the one proposed at FAU is that we do not wish to prepare our graduates to fit into existing media companies. We want them to invent new applications that can be tried out at FAU and can be capitalized and become new business

ventures in South Florida. We are invested in exploring new industrial configurations borne out of developing models of media convergence, as well as convergences between science, art and entertainment.

Our program aims to explore the intersections among entertainment arts, technology and computation in order to creating new, interdisciplinary models for research and development. As digital media production expands to include distributed computing facilities, industry artists and programmers are increasingly asked to collaborate. Media artists commonly encounter challenges that researchers face in scientific computing. More importantly, computation and interface design inform fundamental aspects of everyday life and are a foundational part of a broad range of industries. The conceptual and practical models of traditional media fields inform the medical and scientific applications of new technologies, and the conceptual and practical models of the physical sciences increasingly inform traditional entertainment media applications.

Dr. Paul Fishwick, Professor of Computer Simulation, Music and Art at UF and the advisor for the MA/MS in digital Arts and Sciences, informed us that the engineering graduate students in the MS part of the MA/MS in Digital Arts and Sciences in the Digital Worlds Institute take 30 credits of human-centered computer science classes for their MS and they may take an optional 6 credits of arts classes. Art students take 30 credits of digital art courses and may take 6 optional credits in computer engineering. Both masters programs require a thesis. Dr. Fishwick said that "it would be ideal to have artists and engineer getting together, but they don't do that right now."

The proposed program would include "the ideal." The ideal can be found in the Arts, Media and Engineering program at Arizona State University. Dr. Hari Sundaram, Associate Director of the program and Associate Professor of Computer Science and Engineering, emphasized to us that Computer Engineering students must be in the classroom with new media and animation students in order to create a new interdisciplinary class of media scientists. It is through mutual understanding that real breakthroughs occur. The Arts, Media and Engineering Ph.D. at ASU is funded by a National Science Foundation Integrative Graduate Education and Research Traineeship Program grant.

Our intention is to include disciplinary-specific courses and interdisciplinary courses in the program core, and to include team-taught studio courses as capstone workshops in the second year of the curriculum. In the team-taught classes, students will be divided into project teams. Each team will work on specific applications, guided by a professor from each discipline. At the end of the second year, and as part of individual thesis work, a public presentation of project-based applied research will be made. Private individuals and representatives of private companies will be invited with the hope of interesting them in capitalizing on applicable research and development tools. It is our intention to apply for an NSF Integrative Graduate Education and Research Traineeship Program grant to fund student assistantship grants as our program becomes successful.

The goal of the MFA is to keep pace with the growing need for a STEM-proficient workforce to advance the local and national innovation economy. The proposed MFA will contribute to enhanced STEM training and retention; the unique configuration of the program positions it as a

potential leader in curricular planning for market-relevant STEM education. To this end, the program takes a dynamic approach, responding to the evolving industry landscape by fostering connections between science, technology, engineering, and the varied media industries that are driving and benefiting from applied innovation.

The proposed MFA in Media, Technology and Entertainment will build on the intellectual resources already established in Computer Science and Engineering – 3D technology and new mobile technologies and applications; and in Multimedia Studies – film, video, computer animation, and interactive and web-based media design. The planning process for this MFA revealed the natural connections between the research and creative work presently being done in each academic program. The proposed MFA will strengthen those connections. Interdisciplinary cooperation between Engineering and Arts and Letters will bring to the academy the kind of innovation presently sought in the entertainment and mobile media industries. Practitioners say that when it comes to new technology, students have to step out of the present and into the past when they go to school. This proposed MFA would require students and faculty to improve the present and invent the future.

We emphasize collaboration across the faculty and programs of Multimedia Studies and Computer Science and Engineering, both in the curricular sequencing and in studio capstones. The fundamental philosophy of the program stresses creativity of expression, experimentation and excellence in execution, as well as innovation in the field of new media applications and entertainment technologies.

The proposed target implementation date is Fall 2011, with student recruitment beginning in January 2011. The projected student admission rate is 12 students per year. The MFA is a two-plus years intensive program that requires 60 credit hours, of which 42 are requirements, 12 are electives, and 6 are thesis. As part of the required coursework, students must complete an advanced interactive project which they design and produce as part of a team. Students will follow a series of required courses offered in both Multimedia Studies and Computer Science, and choose from a complement of electives designed to foster specializations.

There is significant projected growth in FTE for the program, following the trend for projected professional growth outlined by the U.S. Bureau of Labor Statistics Occupational Outlook Handbook and Employ Florida Labor Market Services. The program is designed to address a new reserve of prospective graduate students—students that are not currently served by other programs throughout the university.

The financial implications are positive with respect to growth in graduate FTE. And they are also positive in terms of resource allocation. In the School of Communication and Multimedia Studies, faculty are already assigned to undergraduate and graduate teaching. With the recent addition of two new animation faculty (hired in 2009 and 2010), the School will have adequate coverage for both its undergraduate and graduate course offerings. In the Department of Computer Science and Engineering, there will be no reallocation of faculty resources; the Department regularly offers all of the courses listed in the proposed program. The only adjustment to assignment will be made in several capstone courses, which will be team-taught.

The two academic units have already collaborated in the development of new instructional/research facilities at the Fort Lauderdale campus that will serve the degree; these facilities are already funded and were completed during the Spring 2010 term. The two academic units also collaborated on the development of a new Tower Standard Desktop Image, securing the necessary funds and resources from recently instituted Technology Fees to support cutting-edge software driven instruction on the Fort Lauderdale campus. These funds have already been allocated, and the new desktop environment was implemented and tested during the Summer 2010 term. Both the faculty and facilities are already in place, well in advance of the MFA's implementation. And the proper resources have been developed over the past several years with this goal in mind.