

June 12, 2009

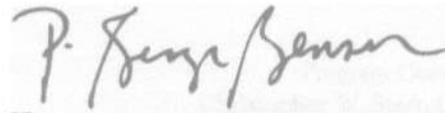
Dr. Gail M. Morrison, Deputy Director
Academic Affairs and Licensing
South Carolina Commission on Higher Education
1333 Main Street, Suite 200
Columbia, SC 29201

Dear Dr. Morrison,

Enclosed you will find a program planning summary for a Bachelor of Arts degree in Computing in the Arts at the College of Charleston. The program will be housed in several departments on campus (the Department of Computer Science, and the Departments of Music, Studio Art, and Art History). The Computing in the Arts program will provide a liberal arts and sciences experience. Students will acquire the knowledge and skills to combine creativity in the arts with the tools and conceptual modeling systems of computing.

Please contact me if you have any questions.

Sincerely,



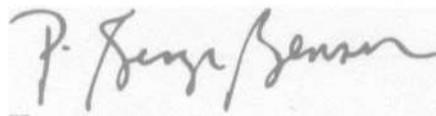
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Program Planning Summary

Bachelor of Arts
Computing in the Arts

School of the Arts (Art History, Music, Studio Art)
School of Sciences and Mathematics (Computer Science)

June 12, 2009



President

Program Contacts:
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Program Planning Summary

New Program Proposed:	Computing in the Arts
Academic Units Involved:	Department of Computer Science (School of Sciences and Mathematics); Department of Music, Department of Art History, Department of Studio Art (School of the Arts)
Degree:	Bachelor of Arts
Program Designation:	STEM: this program qualifies for supplemental Palmetto Fellows Scholarship and LIFE Scholarship awards
Program Duration:	Four-year program
Implementation:	Fall 2010.
Hours Required:	
CIP Code:	10.0304

The College of Charleston proposes an interdisciplinary Bachelor of Arts degree program in Computing in the Arts (CITA). The 40 credit-hour program will require 22 hours in Computer Science, and 18 hours in an arts concentration (music or art). This new interdisciplinary program will be managed by the Department of Computer Science and supported by the combined faculty from Computer Science and the School of the Arts. The curriculum will be interdisciplinary with a blend of existing courses offered by Computer Science, Music, Art History, and Studio Art without the creation of any new courses. The CITA program will provide a liberal arts and sciences experience because the students will acquire the knowledge and skills to combine creativity in the arts with the tools and conceptual modeling systems of computing. Graduates of CITA will be the designers, code writers, and creators of new creativity tools for the future. From contemporary music and art making, to creating new forms of animation and digital media, to invigorating the visual and audio systems of tomorrow's computers, to inventing revolutionary internet applications, this program will prepare students for productive and integrated careers in the information and arts economies. CITA will join a number of similar programs being proposed and implemented at colleges and universities in the United States (Computing and the Arts at Yale is a prime example).

PROGRAM OBJECTIVES

CITA is an integrated program in the sciences and the arts designed to prepare graduates to:

- model processes, particularly those in arts applications;
- investigate, visualize, speculate, and invent using computing and computational thinking;
- synthesize innovative software applications and media combining music, sounds, images, and other digital artifacts; and
- explore the potential of computational thinking and its influence on society.

JUSTIFICATION OF NEED

As computing technology has become ubiquitous, the 21st century global marketplace requires graduates who can combine technology and creative endeavors in innovative, transformative ways. Also, a new generation of high school graduates already view the computational and the artistic as interwoven. However, our current curricula do not allow combining these interests and strengths across the majors within four years. There are two student perspectives:

- (a) Artists and musicians increasingly need to understand the conceptual framework and possibilities of computing, but most do not have the necessary computational thinking skills. 21st century artists need to understand computational tools and techniques so that they may incorporate them comprehensively and effectively into the creative process to achieve their artistic vision.
- (b) Computer scientists increasingly need to incorporate creativity, aesthetics, and design into their work. Art enriches computational thinking with creative and aesthetic expression, resulting in new techniques, innovative products, improved problem solving, and original inquiry.

ANTICIPATED DEMAND AND PRODUCTIVITY

This major is “consistent with the on-going trend within the computer science academic community to identify and define the core concepts, methods, technologies and tools to be integrated into promising new models for undergraduate computing education and to demonstrate effective strategies to implement them in relevant learning communities” (see NSF CISE/CPATH funding announcement, Jan. 2009).

This approach to infuse computational thinking into undergraduate education is most relevant because high-school students already think of computers more as music and visual platforms, rather than general-purpose mathematical calculators, a notion of previous generations. Leveraging the connection between music, art and computer science will likely lead to increased student retention, motivation, learning and satisfaction.

Finally, there is a thriving creative industry in Charleston, as well as nationally and internationally, which utilizes creative-skilled individuals. According to the US Bureau of Labor Statistics, the expected national growth for design-related occupations was expected to be 21% to 35% (see “Forward Charleston – Targeted Economic Development and Marketing Strategy”, by AngelouEconomics Group, Apr. 2005).

It can be argued that this pre-recession figure may actually be higher during the current recession period, because society as a whole is exploring innovative ways to break through professional norms, traditions, and institutions in search of technological growth and advancement (as exemplified by the movie, radio and music industry in the 1930s). This new program prepares students for innovative careers in various evolving fields, including video game production, film animation, music technology, interactive web applications, and 21st century computing platforms, such as the iPhone and future platforms we cannot yet envision.

PROGRAM DUPLICATION

None.

RELATIONSHIP TO PROGRAMS AT THE COLLEGE OF CHARLESTON

This major innovatively combines the strengths of existing faculty and course offerings in computer science, music and arts. Moreover, it supports the fundamental concept of the liberal arts and sciences in that it:

- offers students flexibility in satisfying general education requirements and elective components beyond the core requirements; and
- allows students to design their personalized, possibly unique path through the theory and applications of these complementary fields (computer science, music and arts), based on their academic interests and future career goals.

This is an inherently strong liberal arts major, perfect for the College of Charleston, a liberal arts and sciences university.

RELATIONSHIP TO PROGRAMS IN THE STATE

We have not identified other undergraduate programs in South Carolina that combine computer science and the arts at this level. However, Clemson and Winthrop are moving in this direction with programs involving computing and other disciplines.

Clemson has a graduate program in Digital Production Arts (a professional degree focused on electronic arts and the animation effects industry), and an Audio Technology emphasis for undergraduate music performance majors, which requires no computer science courses. The University of South Carolina offers a major in Media Arts, which is a studio-based program for media art production with no computer science course requirements. Additionally, USC offers three courses in computer music through its Bachelor of Music program; however, these courses are open to any major and have no computer science prerequisites. Winthrop University offers an interdisciplinary undergraduate degree in Information Design with a concentration in Web Application Design that does have computer science content.

Clemson's graduate-level Digital Production Arts program most closely embodies the educational philosophy and learning outcomes of the CITA degree program that the College of Charleston will offer at the undergraduate level. Our CITA degree is different from the Clemson and USC undergraduate offerings in that our degree focuses primarily on software artifacts, whereas students in these other majors focus on music or art artifacts without any computer science content. Our CITA degree is different from the Winthrop degree in that the latter does not have a music or art focus. A full review of existing South Carolina programs will be included in the full proposal.

TOTAL NEW COSTS

No new faculty, classroom space or library budget will be required. We have the capacity in current course offerings to meet the enrollment expectations of this program.

No new courses will be required because the goals of this program can be achieved with current courses in computer science, music and art.