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Agenda items 3.02.a.1-7



**Commission on  
Higher Education**

Rayburn Barton  
Executive Director

May 3, 2001

**MEMORANDUM**

**To:** Mr. Dalton B. Floyd, Jr., Chairman, and Members, Commission on Higher Education

**From:** Ms. Dianne Chinnes, Chairman, Committee on Academic Affairs and Licensing

*Da/gmm*

**Analyses of Seven New Program Proposals**

Please find attached the staff analyses for seven new program proposals, Agenda Items 3.02.a.1-7.

Please do not hesitate to call Dr. Morrison should you have questions or concerns about our analyses.

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**New Program Proposal**  
**Associate in Public Service**  
**Major in Early Care and Education**  
**Greenville Technical College**

**Summary**

Greenville Technical College requests approval to offer a program leading to the Associate Degree in Public Service (APS) degree with a major in Early Care and Education to be implemented in Fall 2001.

The proposal was approved by the Greenville Technical College area commission on May 17, 2000, and was approved by the State Board for Technical and Comprehensive Education (SBTCE) at its meeting on September 27, 2000. It was submitted to the Commission on November 9, 2000, and was reviewed and voted upon favorably by the Commission's Advisory Committee on Academic Programs (ACAP) at its meeting of January 24, 2001. The observation was made and agreed to by all at the ACAP meeting that clarification of the intent of the program as an occupational (rather than transfer) program needs to be made very clear to students. With that understanding, the program proposal received unanimous endorsement.

The program is designed to upgrade both the knowledge and skills of current early child care workers and to prepare new graduates for positions in Head Start and other early child care programs and facilities. It adds another step beyond currently available certificate and diploma programs on the career ladder for early child care workers in the Greenville service area.

A letter from the staff of the State Technical College System to the staff of the CHE in 2000 clarifies that the chief end of any Early Care and Education associate degree program offered in any technical college is the immediate employment of its graduates rather than transfer to a baccalaureate degree program. The final proposal received from Greenville Technical College for this specific program proposal also indicates the same.

However, four courses in the general education sequence are on the Statewide List of 74 courses for transfer. This particular institutional degree proposal provides for no elective coursework.

If approved, this program will become the sixth program of its type in the state's Technical College system. The interest in the program is very high, owing to a mandate in section 648A of the Head Start Act that states that "by September 30, 2003, at least half of all Head Start teachers in center-based programs must have an AA, BA or advanced degree in Early Childhood Education (ECE) or in a related field with pre-school teaching experience." The passage of the South Carolina First Steps to School

Readiness legislation places additional emphasis on strengthening training and improving the quality of the state's childcare providers.

The first five institutional proposals for this degree program were submitted to the State Department of Education for review. In a letter of June 23, 2000, the State Department of Education expressed support for the degree program at the same time that it indicated a concern that all printed literature about the degree should clearly indicate that the degree does not lead to any kind of teacher certification in the state of South Carolina.

Although the Greenville Tech proposal was not one of the five submitted to the State Department of Education, the administration of Greenville Technical College understands and accepts that this degree does not lead to any public school teaching certification. Despite the fact that the program is described in the proposal as one which will provide a "laddered" sense of professionalism from diploma, certificate, associate, and baccalaureate degree preparation, the laddering applies only from the diploma level to the certificate level and from the certificate level to associate degree level. The relative lack of general education coursework, the bachelor degree preparation of the faculty, and the lack of articulation with four-year institutions all constitute disincentives in the program proposal for creation of a ladder to the baccalaureate degree.

Based on the results of an employer survey, the institution has estimated that new full-time job openings for trained professionals in the field of early care and education will total 184 in the first year, 172 in the second year, and 171 in the third year. In addition, there is estimated to be a group of 75, 66, and 68 part-time openings in each of these respective years. The federal government has mandated that at least 50% of all early care providers in Head Start programs shall have either an AA or a BA by September 30, 2003. This mandate in itself provides a powerful stimulus for demand for the program.

The curriculum consists of a total of 70 semester hours of course credit. Of these, 16 semester hours form a general education core; 51 semester hours are required Early Childhood courses; and 3 semester hours are required in Introduction to Computers. Four of the courses in the proposed program will be new to Greenville Technical College.

One new FTE faculty is needed for offering the program. According to the proposal, all faculty meet and exceed the requirements of the institution and the Southern Association of Colleges and Schools (SACS), the regional accrediting body. According to the proposal, only the chairperson of the department has a master's degree with at least 18 semester hours of coursework in the discipline of Early Childhood Education and Care. Other current faculty members, as well as the new contemplated position, will require only a bachelor's degree preparation, which is one indicator that the program is not intended for transfer. The number of new students anticipated for the program as majors is 30 (8.8 FTE) in the first year, 90 (26.8 FTE) in the second year, and 120 (36.1 FTE) in the third year.

Costs for the new program are estimated by the institution at a total of \$173,427 for the first three years of implementation of the program. These costs are found in faculty salaries (\$153,927), supplies and materials (\$4,500), library resources (\$7,000), and equipment (\$8,000.)

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state associated with implementation of the proposed program for its first five years. Also shown are the estimated revenues projected under the Mission Resource Requirement and the Resource Allocation Plan as well as student tuition.

Year	Estimated MRR Cost for Proposed Program	Extraordinary (Non-MRR) Costs for Proposed Program	Total Costs	State Appropriation	Tuition	Total Revenue
1999-00	\$60,429	\$0	<b>\$60,429</b>	\$0	\$13,800	<b>\$13,800</b>
2000-01	\$183,795	\$0	<b>\$183,795</b>	\$29,674	\$42,000	<b>\$71,674</b>
2000-02	\$246,960	\$0	<b>\$246,960</b>	\$92,528	\$56,750	<b>\$149,278</b>
2000-03	\$246,960	\$0	<b>\$246,960</b>	\$124,463	\$56,750	<b>\$181,213</b>
2002-04	\$246,960	\$0	<b>\$246,960</b>	\$124,463	\$56,750	<b>\$181,213</b>

These data demonstrate that even if Greenville Technical College can meet the projected student enrollments and finance costs as shown in the proposal, the program will not be able to cover new costs with revenues it generates during the first five years of its operation. Nevertheless, the institution is committed to the implementation of the program.

In summary, the proposed program would help to meet the needs of public schools (teacher aides), Head Start programs, and child care centers in the Greenville Technical College service area. Employers' interest, sparked by federal mandates and state initiatives, suggests there is considerable demand for the graduates of the program. The program is designed to "ladder" on the existing Certificate and Diploma programs in this area.

### **Recommendation**

The Committee on Academic Affairs recommends approval of the program leading to the Associate of Public Service with a major in Early Care and Education degree at Greenville Technical College for implementation in Fall 2001, provided that 1) no "unique cost" or other special state funding be required or requested; and 2) provided further that all advisement by faculty and staff as well as all published literature shall indicate that, while some courses may transfer, the program is not a college transfer program and does not lead to teacher licensure or certification.

**New Program Proposal**  
**Bachelor of Science in Environmental and Natural Resources**  
**Clemson University**

**Summary**

Clemson University requests approval to offer a program leading to the Bachelor of Science degree in Environmental and Natural Resources with concentrations in Natural Resources Management, Conservation Biology, and Natural Resource and Environmental Policy, to be implemented in Fall 2001.

The University Board of Trustees approved the concept of the proposed program on April 21, 2000. This proposal was submitted for Commission review on November 13, 2001. The proposal was reviewed without substantive comment and voted upon favorably by the Advisory Committee on Academic Programs at its meeting on January 24, 2001.

The purpose of the proposed program is to prepare professionals with a broad-based knowledge in natural resources who have the ability to interact with other resource professionals to develop solutions to environmental and natural resources problems. Graduates of the program will be able to use interdisciplinary approaches to develop solutions.

The need for the program is based on State, regional, and national demands for graduates with this type of training. No quantitative data were supplied relative to employer demand. The program proposal indicated that other states have implemented similar curricula to meet demand. National data for 1996 and 1997 showed that 92 percent of baccalaureate graduates with a broad degree in natural resources were either employed in natural resource positions or in graduate programs.

The curriculum consists of 124 to 132 credit hours. The proposed major will offer three concentrations: Natural Resources Management, Conservation Biology, and Natural Resource and Economic Policy. The curriculum for Natural Resources Management will emphasize resource management and negotiation skills. The Conservation Biology concentration will emphasize courses where students will gain knowledge related to taxa (specific plant and animals), their habitats, and their interrelationships. The curriculum for the Natural Resources and Economic Policy concentration will emphasize economics and policy applications particularly as they apply to regulatory agencies. All three concentrations will have a common freshman year, and during the sophomore year they will have about 75 percent courses in common. By the junior year, all three concentrations will diverge into the particular area of focus. During the senior year there will be a joint capstone experience. The curricula for each of the concentrations were provided in the proposal and clearly indicate the divergence in the junior year and show that the programs can be completed in four years without summer attendance.

Five new courses will be developed for the proposed program. These new courses focus on environmental and natural resources as well as restoration and conservation issues. Faculty currently in the College of Agriculture, Forestry, and Life Sciences will teach them.

The number of existing faculty serving the new program is 24 headcount or 6.0 FTE. No new faculty will be required. Administrative and staff support for the program will be provided through re-assignment of current positions.

Enrollments in the proposed program are estimated to begin at 30 headcount students in Fall 2001-02 and increase to 140 by Fall 2005-06. Many of the students are expected to come from existing majors at Clemson with only a small portion coming from outside the University. Enrollments are estimated based on a survey of 250 undergraduates majoring in Forest Resources Management (data not provided) and through discussions with faculty within the College. The proposal indicated that the proposed enrollment estimates are similar to those at other national institutions that offer this type of program. The Environmental Sciences program at Lander University and the proposed Environmental Sciences programs at Winthrop University differ from the proposed Clemson program because of Clemson's focus on resource management issues.

The proposed program will not be subject to any accreditation, licensure, or certification requirements. There are no physical plant or equipment needs for the proposed program. Current library holdings and database search indexes provide sufficient support. There are no funds requested for library support because the acquisitions for the proposed program will come from several disciplines within the University that will be supporting the new major.

Shown below are the estimated Mission Resource Requirement (MRR) costs and new costs not funded by the MRR associated with implementation of the proposed program for its first five years. Also shown are the estimated revenues projected under the MRR and the Resource Allocation Plan as well as student tuition.

Year	Estimated MRR Cost for Proposed Program	Extraordinary (Non-MRR) Costs for Proposed Program	Total Costs	State Appropriation	Tuition	Total Revenue
2001-02	\$543,362	0	\$543,362	\$0	\$210,129	\$210,129
2002-03	1,015,229	0	1,015,229	289,861	393,016	682,877
2003-04	1,487,096	0	1,487,096	541,240	575,284	1,116,524
2004-05	1,958,963	0	1,958,963	793,140	758,172	1,551,312
2005-06	2,194,897	0	2,194,897	1,044,519	849,616	1,894,134

These data demonstrate that if Clemson University can meet the projected student enrollments and contain costs as they are shown in the proposal, the program will not be able to cover new costs with revenues it generates by the fifth year of its implementation.

In summary, the proposed program will offer Clemson undergraduates an interdisciplinary program that will provide them with a broad-based background in natural resources. With this training, graduates will be able to pursue a variety of career opportunities in environmental and natural resources in government and industry. The three concentrations allow students to focus on particular career goals in management, conservation and economic policy.

### **Recommendation**

The Committee on Academic Affairs recommends approval of the program leading to the Bachelor of Science degree in Environmental and Natural Resources with concentrations in Natural Resources Management, Conservation Biology, and Natural Resource and Environmental Policy at Clemson University for implementation in Fall 2001, provided that no "unique cost" or other special state funding be required or requested.

**New Program Proposal**  
**Bachelor of Arts in Environmental Studies and Bachelor of  
Science in Environmental Sciences**  
**Winthrop University**

**Summary**

Winthrop University requests approval to offer programs leading to the Bachelor of Arts degree in Environmental Studies and to the Bachelor of Science in Environmental Sciences degree to be implemented in Fall 2001.

The Board of Trustees approved the proposal on November 3, 2000. This proposal was submitted for Commission review on November 16, 2000. The proposal was reviewed at the January 24, 2001, meeting of the Advisory Committee on Academic Programs. Several comments were expressed by the committee members concerning the proposed program. In particular, Lander University indicated that the programs were a duplication of Lander's Environmental Science program. Concerns were also raised that there should be more courses in earth science and a course in geographic information systems. Lander further indicated that its enrollment had not reached expectations and that enrollment in the Winthrop program may not be as strong as predicted. Lander's B.S. degree in Environmental Science requires a wider array of science courses and in particular courses in environmental science (six courses required). The Lander program also requires two courses in computer science. The Winthrop B.S. degree differs in the number of science courses required, no computer science courses, and fewer environmental courses (many of the environmental courses will be in the humanities). Thus the two programs differ in the amount of required basic and environmental science courses and with Winthrop offering environmental humanities courses. Students completing B.S. degrees at both institutions will seek positions in the same job markets. Students who complete the B.A. degree in Environmental Studies at Winthrop will take a course load very different from the B.S. degree offered at Lander and will not seek positions in the same career fields as those with a B.S. degree.

The purpose of the programs is to provide students with an understanding of the scientific, social, political, ethical, cultural, economic, and policy aspects of environmental issues. Students completing the B.A. degree in Environmental Studies will be prepared for careers with environmental groups, policy groups, and consulting firms as well as graduate programs in environmental studies and law. Students completing the B.S. degree program in Environmental Sciences will be prepared for scientific careers in industry, government, consulting, and recovery and for graduate programs in environmental sciences.



The need for the program is based on surveys of environmental firms in South Carolina and students at Winthrop. In addition, the proposal cites the increasing need for trained environmental personnel due to the increase in environmental regulations. A survey of 96 companies indicated that 32 percent expected an increase in the number of positions available to graduates from the B.A. degree program and 41 percent indicated an increase in the number of positions available for graduates from the B.S. degree program. Of the 768 Arts and Sciences students survey at Winthrop, approximately 57 percent indicated an interest in an Environmental Sciences degree program.

The curriculum consists of a total of 124 credit hours for both the B.A. and B.S. degree programs. For the B.S. degree program, six hours are required environmental courses, 49 hours are required science courses, 12-16 hours are elective science courses, 12 hours are environmental humanities courses, 40 hours are additional general education courses not covered in the required courses, and 1-5 hours are electives. For the B.A. degree program, 31 hours are core environmental courses, 6 hours are required elective courses, 3-4 hours are required elective science courses, 15-24 hours are within the required minor, 30 hours are additional general education courses not covered in the required courses, and 29-39 hours are electives. The two proposed programs are connected through the required environmental science courses, required biology courses, environmental humanities courses, and through other electives. At the end of the programs, students in both majors take the same capstone course where they undertake cooperative research projects. The proposed curriculum has been designed with input from an Advisory Board that consists of employers, scientists, attorneys, policymakers, and others active in environmental fields. The board members reviewed the proposed curricula and indicated that they effectively addressed the needs of prospective employers. In addition, Winthrop compared its curricula to the requirements of 46 Environmental Sciences/Studies/Biology programs in the southeast. They determined that the proposed science requirements are similar to those required at other institutions. However, the staff notes that both of the proposed programs are weak in computer science courses and encourages the University to address this weakness by having students take computer courses under the electives.

Winthrop proposes nine new courses to support the programs. Five of these courses will have an ENVS prefix to indicate that they are environmental courses. The remaining four new courses are in economics, history, philosophy, and sociology. The other required and elective science courses are currently offered at the University.

One new full-time tenure-track and two half-time positions will be required to support the proposed program. The new full-time faculty member will fill the Dalton Endowed Chair in Environmental Sciences and will direct both programs. The University has received a \$1 million donation to fund the Dalton Endowed Chair in Environmental Sciences. The two half-time positions will be added in the Biology and Chemistry departments to cover introductory courses and faculty reassigned to support upper-level courses. Three headcount faculty or 1.75 FT will support the program.

Enrollments in the proposed program are estimated to begin at 24 headcount students in FY 2001-02 and increase to 104 by FY 2005-06. Enrollments are estimated based on the survey of Winthrop Arts and Sciences students and student interest data from the PSAT. These two data sources were used to develop conservative enrollment estimates. Lander University is the only other public institution offering an undergraduate Environmental Science degree. While the proposed B.S. degree program has similarities to Lander's program, the proposed B.A. degree is very different. The enrollment projections meet CHE productivity standards.

The proposed program will not be subject to any accreditation, licensure, or certification requirements. There are no physical plant needs for the proposed program. Equipment needs for laboratories directly supporting the environmental programs will require \$125,000 in support. The University will cover the cost of the equipment through existing and future equipment allocations from state funds, grants, and donations. The proposal indicates that an additional \$1000 per year will be required to support environmental materials at the library. These funds will be used to purchase additional monographs and eight new journals.

Shown below are the estimated Mission Resource Requirement (MRR) costs and new costs not funded by the MRR associated with implementation of the proposed program for its first five years. Also shown are the estimated revenues projected under the MRR and the Resource Allocation Plan as well as student tuition.

Year	Estimated MRR Cost for Proposed Program	Extraordinary (Non-MRR) Costs for Proposed Program	Total Costs	State Appropriation	Tuition	Total Revenue
2001-02	\$300,006	0	\$300,006	\$0	\$122,788	\$122,788
2002-03	550,010	0	550,010	167,846	225,367	393,212
2003-04	850,016	0	850,016	307,829	348,154	655,983
2004-05	2,000,037	0	2,000,037	475,674	818,670	1,294,344
2005-06	3,300,062	0	3,300,062	1,118,431	1,351,005	2,469,437

These data demonstrate that if Winthrop University can meet the projected student enrollments and contain costs as they are shown in the proposal, the program will not be able to cover new costs with revenues it generates by the fifth year of its implementation.

The proposed program will offer students at Winthrop University the option of obtaining Environmental Science degrees that will serve the needs of 130 environmentally-related companies in York County and the Charlotte area. These companies have indicated that there is a need for students trained in both scientific-based and policy-based programs. The proposed design of the B.A. and B.S. degree programs will allow students to pursue career goals in either scientific or policy oriented careers.

Although Lander University offers a B.S. degree in Environmental Sciences, the two programs will serve different geographic regions of the State. No other public institution offers a B.A. in Environmental Studies.

### **Recommendation**

The Committee on Academic Affairs recommends approval of the program leading to the Bachelor of Arts in Environmental Studies and the Bachelor of Science in Environmental Sciences degrees at Winthrop University for implementation in Fall 2001, provided that no "unique cost" or other special state funding be required or requested.

**New Program Proposal**  
**Bachelor of Arts in Music**  
**Coastal Carolina University**

**Summary**

Coastal Carolina University requests approval to offer a new program leading to the Bachelor of Arts in Music, to be implemented in Fall 2001.

Coastal Carolina's Board of Trustees approved the program proposal on October 6, 2001. The Commission's Advisory Committee on Academic Programs reviewed the program at its meeting on January 24, 2001, and voted unanimously without comment to recommend its approval to the Commission.

The purpose of the program is to provide a strong liberal arts basis in the study of music—both in terms of theory and performance—to the undergraduate population at Coastal Carolina. From a mission perspective, Coastal makes a compelling case in the proposal that a degree in music—one of the core disciplines in the liberal arts—is necessary for the institution to progress towards its goal of becoming a moderately sized public liberal arts university.

The proposed BA in Music at Coastal Carolina will require students to complete 121 credit hours for graduation broken out in the following fashion: 1) 44-51 credits in general education or core curriculum; 2) 16 credits in foundation courses in music such as Introduction to Music Theory and Class Piano; 3) 35 credits in the major with appropriate electives in students' desired areas of focus (e.g., voice, piano, conducting); and, 4) a 12 credit cognate chosen by students from upper-division courses and designed to support the major. Coastal will offer eight new courses in music, several of which are one credit or zero credit directed performance and recital courses.

Additionally, Coastal will seek accreditation for the new program through the National Association of Schools of Music (NASM). The University expects to win accreditation through NASM in year four (academic year 2004-05) of the program's operation.

In terms of enrollment, Coastal projects that the BA in Music will begin with three new headcount students in Fall 2001 and increase to 12 new headcount students by Fall 2005. The University anticipates total enrollment in the program to reach 15 full-time majors by Fall 2005.

Currently, among the state's public universities, College of Charleston, Lander University, USC-Columbia, and Winthrop University offer general liberal arts programs in music. Given the centrality to the liberal arts and sciences that music occupies (along with other fundamental disciplines such as English, history, and mathematics), the Commission staff views the creation of the BA in Music at Coastal Carolina as a healthy and necessary development in the institution's and in the state's academic program array.

No new full-time faculty will be required to implement the major since Coastal already offers a minor in music and teaches a full complement of courses in the major. However, the University does anticipate the hiring of two adjunct faculty in years two (Fall 2002) and five (Fall 2005) of operation; these two faculty will account for 0.5 new FTE, or approximately four courses per year (a full-time faculty load at Coastal is eight courses).

The proposed new BA in Music will require a fairly significant investment (approximately \$1,000,000 over the first five years of operation) in new equipment in the form of Steinway, Baldwin, and Yamaha pianos as well as other needed instruments. Coastal Carolina has decided to start a capital campaign, coordinated by the University's central development office, to underwrite the costs of these instruments. Other additional costs associated with the program include approximately \$25,000 for new library resources to support the major, \$12,000 for projected additional adjunct salaries, \$23,000 for new support staff, and \$8,000 to underwrite the costs of seeking accreditation through NASM.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state associated with implementation of the proposed program for its first five years. Also shown are the estimated revenues projected under the MRR and the Resource Allocation Plan as well as student tuition.

Year	Estimated MRR Cost for Proposed Program	Extraordinary (Non-MRR) Costs for Proposed Program	Total Costs	State Appropriation	Tuition	Total Revenue
2001-02	\$26,323	\$0	<b>\$26,323</b>	\$0	\$14,079	<b>\$14,079</b>
2002-03	43,872	0	<b>43,872</b>	11,967	24,096	<b>36,063</b>
2003-04	70,195	0	<b>70,195</b>	19,590	38,175	<b>57,765</b>
2004-05	89,938	0	<b>89,938</b>	31,557	48,892	<b>80,449</b>
2005-06	108,583	0	<b>108,583</b>	40,444	58,628	<b>99,072</b>

These data demonstrate that if Coastal Carolina can meet the projected student enrollments and contain costs as they are shown in the proposal, the program will not be able to cover new costs with revenues it generates by the fifth year of its implementation.

In summary, Coastal Carolina makes a compelling argument that the proposed new Bachelor of Arts in Music can fill a much-needed gap in its programming array, especially given the institution's stated desire to strengthen its mission as a public liberal arts university. Despite the high equipment costs associated with the program, the University has made an effort to offset costs through a centrally controlled capital campaign, an initiative that shows solid backing from the leadership at Coastal for the program.

### **Recommendation**

The Committee on Academic Affairs recommends approval of the program leading to the Bachelor of Arts in Music degree at Coastal Carolina University for implementation in Fall 2001, provided that no "unique cost" or other special state funding be required or requested.

**New Program Proposal**  
**Bachelor of Arts in Spanish**  
**Coastal Carolina**

**Summary**

Coastal Carolina requests approval to offer a program leading to the Bachelor of Arts degree with a major in Spanish to be implemented in Fall 2001.

The proposal was approved by the Board of Trustees of Coastal Carolina University on October 6, 2000. The proposal was submitted to the Commission on October 12, 2000. It was approved without substantive comment by the Commission's Advisory Committee on Academic Programs at its meeting on January 24, 2001.

According to the proposal, the need for the program is evident and growing. The program is designed to provide students with a fluency in written and oral Spanish language and a solid appreciation of Hispanic culture and literature. It is designed to make students who major in it competitive for positions in the global economy. It is also designed to prepare students who double major in Spanish and Secondary Education to help fill the demand for increased numbers of teachers of Spanish in the Horry-Georgetown area.

Currently, there are eight other public institutions and ten private institutions of higher education in South Carolina which offer a major in Spanish. Despite the fact that there is duplication of programs, this program is considered to be important for the institution as a liberal arts major offering that should be available as part of what helps provide a full complement of undergraduate majors. Likewise, the student demand for the program is evident because of the increased interest in Spanish language capability in the United States for economic development, tourism, travel, and international trade. The proposal documents the undeniably rapid rise of the numbers of Spanish-speakers in the United States generally. It also mentions prominently the decision in the Grand Strand area of South Carolina in recent years to add Spanish as a language in all the public elementary schools. This decision makes the idea of a major in Spanish a highly worthwhile feature for the region of which Coastal Carolina University is a part.

The curriculum consists of a total of 120 semester hours. Of these, 44-52 comprise a general education core. Twelve additional semester hours fulfill a "foundation" set of courses. Twenty-seven additional semester hours fulfill major requirements. A minor or cognate consists of 12-14 semester hours and non-major electives consist of 16-28 semester hours. The curriculum contains an innovative requirement for fluency in Spanish, based upon immersion. This requirement will entail

either a component of study abroad or community study within an American Hispanic community.

The institution already offers a minor in Spanish and a major in Secondary Education/Spanish. Most students at Coastal Carolina University (75%) already take Spanish as their choice of foreign language to complete their general education requirement in the foreign language area. For these reasons, the number of new students anticipated at the institution as majors has been estimated very conservatively in the program proposal. The proposal states the estimated number of new students as two (.9 FTE) in the first year of the program. This number is anticipated to rise to six (2.9 FTE) in the second year, nine (4.3 FTE) in the third year, 15 (7.1 FTE) in the fourth year, and 21 (10 FTE) in the fifth year.

No new full-time faculty will be necessary for the program. No new facilities or equipment will be necessary for the program. Additional funds for library enhancement will be necessary for the implementation of the program. Costs for the new program are estimated by the institution to be \$110,933 over the first five years of the implementation of the program. The costs include \$90,933 for clerical/personnel support and \$20,000 for library resources. No other costs are anticipated.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state associated with implementation of the proposed program for its first five years. Also shown are the estimated revenues projected under the Mission Resource Requirement and the Resource Allocation Plan as well as student tuition.

Year	Estimated MRR Cost for Proposed Program	Extraordinary (Non-MRR) Costs for Proposed Program	Total Costs	State Appropriation	Tuition	Total Revenue
1999-00	\$7,093	\$0	<b>\$7,093</b>	\$0	\$6,310	<b>\$6,310</b>
2000-01	\$21,787	\$0	<b>\$21,787</b>	\$3,147	\$18,002	<b>\$21,149</b>
2000-02	\$32,680	\$0	<b>\$32,680</b>	\$9,250	\$26,836	<b>\$36,086</b>
2000-03	\$53,707	\$0	<b>\$53,707</b>	\$13,656	\$44,504	<b>\$58,160</b>
2002-04	\$76,253	\$0	<b>\$76,253</b>	\$22,469	\$62,506	<b>\$84,975</b>

These data demonstrate that if Coastal Carolina's proposed B.A. degree in Spanish achieves its enrollment goals for new students, by the third year of implementation, the program will bring in more revenue to the institution than it costs.

In summary, the program fits within the mission of the institution as a comprehensive university with a curriculum to teach the liberal arts and sciences. The program is needed nationally and in the service area of the institution, despite the fact that many other four-year public and private institutions in South Carolina already offer it. The program is cost effective and has built into it either a study-abroad or community-



study plan to immerse students in the language so that they are truly fluent in Spanish as graduates.

### **Recommendation**

The Committee on Academic Affairs recommends approval of the program leading to the Bachelor of Arts in Spanish degree at Coastal Carolina University for implementation in Fall 2001, provided that no "unique cost" or other special state funding be required or requested.

**New Program Proposal**  
**Bachelor of Arts in Middle Grade Education**  
**University of South Carolina-Spartanburg**

**Summary**

USC-Spartanburg requests approval to offer a program leading to the Bachelor of Arts degree in Middle Grades Education to be implemented in Fall 2001.

The Board of Trustees approved the proposal on December 18, 2001. This proposal was submitted for Commission review on November 13, 2000. The proposal was reviewed without substantive comment and voted upon favorably by the Advisory Committee on Academic Programs at its meeting on January 24, 2001.

The purpose of the proposed program is to prepare teachers in middle-level education who will be eligible for middle-level certification. Middle school is seen as the point where many students begin to experience academic problems and where highly qualified middle-level educators can make a difference in the learning success of students.

The need for the program is based on action taken by the State Board of Education which approved a new certification for the middle-level grades (grades 5 through 8). The General Assembly is expected to approve the certification regulation this spring. By implementing this program, USC-Spartanburg will have students prepared for the new certification level that takes affect in 2003.

The curriculum is based on the standards of the National Middle School Association (NMSA) and the certification requirements of the S.C. Department of Education (SDE). The curriculum consists of a total of 123 credit hours. Of these, 47 hours are in general education, 30 are in professional education, three are a required course (Lifelong Health and Wellness), three are electives, and 30 hours are in two areas of concentration (15 hours in each area) required by NMSA and SDE. Students will be required to have two areas of content concentration which include English/language arts, social studies, mathematics, or science. No new courses will be required for the proposed program. USC-Spartanburg has listed in their 2000-01 catalogue all of the required courses. Many of these courses are combined with elementary or secondary courses. For example, the mathematics methods course is titled *Teaching Mathematics in the Elementary and Middle School* and the curriculum course is titled *Middle and Secondary School Curriculum*.

USC-Spartanburg indicates that it will be necessary to hire one faculty member during the third year of the program. This faculty member will be required to have a degree in middle-level education or the equivalent and have a minimum of three years teaching. Existing faculty serving the program will be nine headcount or 2.25 FTE. This will increase to ten headcount or 3.25 FTE in the third year of the program.

Enrollments in the proposed program are estimated to begin at 35 headcount students in FY 2001-02 and increase to 45 headcount students in FY 2005-06. Enrollments are based on a needs assessment sent to 40 middle schools in the USC-Spartanburg service area. There are no employment concerns for graduates from this program as there is a teacher shortage, and there will also be a demand for teachers with the new middle-level certification.

The proposed program will be subject to accreditation by the National Council for the Accreditation of Teacher Education (NCATE). USC-Spartanburg will be required to prepare a program report for review by the National Middle School Association which will be submitted to NCATE in Spring 2002. The S.C. Department of Education has reviewed the program proposal and has indicated that the program is consistent with the proposed middle-level certification standards.

There are no physical plant or equipment needs for the proposed program. The proposal indicates that the Dean of the USC-Spartanburg library has stated that no additional resources are required for library support of the program. A quantitative assessment of the middle-level holdings was not presented in terms of the standards of the American Library Association or the Association of College and Research Libraries. The program proposal does note that future acquisitions for education materials will place more emphasis on materials that address middle education.

Shown below are the estimated Mission Resource Requirement (MRR) costs and new costs not funded by the MRR associated with implementation of the proposed program for its first five years. Also shown are the estimated revenues projected under the MRR and the Resource Allocation Plan as well as student tuition.

Year	Estimated MRR Cost for Proposed Program	Extraordinary (Non-MRR) Costs for Proposed Program	Total Costs	State Appropriation	Tuition	Total Revenue
2001-02	\$290,045	0	\$290,045	\$0	136,904	\$136,904
2002-03	372,915	0	372,915	147,303	176,018	323,321
2003-04	372,915	0	372,915	189,389	176,018	365,407
2004-05	372,915	0	372,915	189,389	176,018	365,407
2005-06	372,915	0	372,915	189,389	176,018	365,407

These data demonstrate that if the USC-Spartanburg can meet the projected student enrollments and contain costs as they are shown in the proposal, the program will not be able to cover new costs with revenues it generates by the fifth year of its implementation.

The proposed program has been designed to address the new middle grades certification for South Carolina teachers scheduled for implementation in 2003, assuming its approval by the General Assembly. USC-Spartanburg has designed a program that incorporates the standards of the National Middle School Association and the certification requirements of the S.C. Department of Education. The institution will be the first public institution to offer middle grades education to teacher education majors.

### **Recommendation**

The Committee on Academic Affairs recommends approval of the program leading to the Bachelor of Arts in Middle Grades Education degree at the University of South Carolina-Spartanburg for implementation in Fall 2001, provided that no "unique cost" or other special state funding be required or requested.

**New Program Proposal**  
**Master of Software Engineering**  
**University of South Carolina-Columbia**

**Summary**

USC-Columbia requests approval to offer a new program leading to the Master of Software Engineering, to be implemented in Fall 2001.

The University's Board of Trustees approved the proposal on December 18, 2000. The Commission's Advisory Committee on Academic Programs reviewed the proposal at its January 24, 2001, meeting. Discussion at the meeting centered on whether USC will offer the Master of Software Engineering (MSE) program in Charleston to employees of the Space and Naval Warfare Systems Center (SPAWAR). Representatives from the College of Charleston noted that the College offers a Software Engineering track in the Master of Computer and Information Science program it jointly offers with The Citadel and that they would have a concern if USC offered the proposed MSE program in Charleston without consulting with the College of Charleston or The Citadel. Representatives from the University agreed to have discussions with representatives from the College and The Citadel and also noted that USC's discussions with SPAWAR related to courses offered by distance technology. Also, the representatives from USC told the Committee that most students enrolled in the MSE program would enroll at the main campus in Columbia. Subsequent to these discussions, the Committee voted unanimously to approve the proposed program.

According to the proposal, the purpose of the program "is to produce software engineers who have the knowledge and skills to manage large software projects and the ability to apply state-of-the-art techniques to develop consistently high-quality software." Additionally, USC clearly intends that the program help bridge the gap between the software engineering needs of business and industry in the state and region and the current program array of the academy. To this end, the Master of Software Engineering will be an applied degree, albeit one with an extensive and appropriate technical focus. Given the well-documented number of employment opportunities for graduates from high quality MSE programs in the state and region, the need for the program in South Carolina seems strong.

The curriculum for the proposed new program is rigorous and well-conceived. USC will require students to complete 30 semester credit hours to obtain the degree; these hours are divided into two coursework areas: 15 credits in a core area that includes four new software engineering courses (Software Process, Software Architecture, Software Requirements, and Software Testing and Quality Assurance); and, 15 credits in

electives chosen from among existing courses offered by the Department of Computer Science and Engineering. Also, USC will add a one credit Internship requirement "for students without adequate software engineering experience" prior to enrollment. This course is new, too.

The MSE program will be administered by the Department of Computer Science and Engineering and housed within the College of Engineering and Information Technology. Currently, this department offers baccalaureate, masters, and doctoral programs in computer science and computer engineering and is clearly well-prepared to undertake the development and implementation of a Master of Software Engineering program.

It is important to note, too, that USC plans on seeking accreditation for the MSE program through the Accreditation Board for Engineering and Technology (ABET) at the earliest possible juncture. All other accreditable programs administered by the College of Engineering and Information Technology currently hold accreditation through this body.

At present, Winthrop University offers a Master of Science in Software Engineering that the Commission approved at its January 2001 meeting for implementation this semester. This program is housed in the College of Business at Winthrop and is not as technically oriented as the proposed MSE at USC. Also, the College of Charleston and The Citadel jointly offer a Master of Computer and Information Science program that the Commission approved in October 2000. The program offers a software engineering track but nevertheless is not a stand-alone program in this area. The Commission staff is convinced that the need for graduates from these and other similar programs in the computer sciences is, at present, sufficient to offset any specific concerns regarding duplication of effort in the state.

Enrollment in the proposed Master of Software Engineering is projected to start with 15 new students in Fall 2001 and increase rapidly to 50 new students by Fall 2002, where the University believes it will level off. Since USC anticipates demand for the program will be greater than the number of students it can reasonably accommodate, there is some evidence that the College will cap the number of students in the program so as to ensure an appropriate faculty/student ratio, at least in the short term. Also, USC projects that both full-time and part-time students will enroll in the program, creating an average student load of approximately seven credit hours per semester in Fall and Spring terms and four credit hours in Summer term.

Importantly, the University will add four new full-time faculty positions over the first five years of the program's operation to meet new coursework and new section needs. USC will hire two new faculty in Fall 2001 and add one new faculty member in Fall 2002 and Fall 2003. All together, the estimated new costs associated with these hires total just over \$1.1 million over the first five years of the program's operation. Given the salaries that faculty in this field command, this figure seems reasonable. Additionally, USC will hire a new support staff member to help handle the departmental

increases in enrollment and faculty. The Commission staff commends USC for adequately staffing this new program and for planning for the program's growth in a strategic fashion.

While the University does not anticipate any new specialized equipment needs for the proposed Master of Software Engineering, it does budget for additional software, pc's, and higher speed network connections. These costs amount to \$142,500 over the first five years of the program's operation. USC also plans to hire additional graduate assistants to be associated with the new program (\$372,506 over five years) and budgets for approximately \$5,000 per year in extra library costs.

When totaled, the new costs associated with the proposed Master of Software Engineering are high, but not extraordinarily so given the start-up costs for most technical programs. The estimated additional costs range from \$187,000 in year one to \$441,084 in year five. USC plans on addressing these costs through two sources: reallocation of existing resources within the University to account for new faculty costs (e.g., replacement of retiring faculty, redistribution of faculty slots from within the University) and new student tuition.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state associated with implementation of the proposed program for its first five years. Also shown are the estimated revenues projected under the MRR and the Resource Allocation Plan as well as student tuition.

Year	Estimated MRR Cost for Proposed Program	Extraordinary (Non-MRR) Costs for Proposed Program	Total Costs	State Appropriation	Tuition	Total Revenue
2001-02	\$317,438	\$0	<b>\$317,438</b>	\$0	\$75,400	<b>\$75,400</b>
2002-03	854,642	0	<b>854,642</b>	163,728	203,908	<b>367,636</b>
2003-04	854,642	0	<b>854,642</b>	441,930	203,908	<b>645,838</b>
2004-05	854,642	0	<b>854,642</b>	441,930	203,908	<b>645,838</b>
2005-06	854,642	0	<b>854,642</b>	441,930	203,908	<b>645,838</b>

These data demonstrate that if the USC can meet the projected student enrollments and contain costs as they are shown in the proposal, the program will not be able to cover new costs with revenues it generates by the fifth year of its implementation.

In summary, the Master of Software Engineering at the University of South Carolina is a well-conceived program designed to fill the gap between the needs of business and industry for technically oriented software development project managers and the current programmatic offerings at the University. The field of software engineering is obviously a growing one, both nationally and in South Carolina, and USC

makes an excellent case in its proposal for its ability to implement an academic program in the field of appropriate rigor and comprehensiveness.

### **Recommendation**

The Committee on Academic Affairs recommends approval of the program leading to the Master of Software Engineering degree at the USC-Columbia for implementation in Fall 2001, provided that no "unique cost" or other special state funding be required or requested.