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Agenda item 3.02.C. 1-10

Rayburn Barton  
Executive Director

November 1, 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 *[Signature]*

**Analyses of Ten New Program Proposals**

Please find attached the staff analyses for ten new program proposals, Agenda items 3.02.C.1-10.

Please do not hesitate to call me or 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**  
**Central Carolina Technical College**

**Summary**

Central Carolina Technical College requests approval to offer a program leading to the Associate in Public Service degree with a major in Early Care and Education to be implemented in January 2002. The proposal was approved by the State Board for Technical Colleges on May 22, 2001, and was submitted to the Commission on May 25, 2001. The Advisory Committee on Academic Programs reviewed and approved the completed proposal without substantive comment at its meeting on July 24, 2001.

According to the proposal, there is a great need for the program in the greater Sumter area, which is served by Central Carolina Technical College, for helping to meet the needs of daycare services for young children. There is also a mandate found in section 648A of the Federal 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." Another impetus for implementation of this program is the recent passage of the South Carolina First Steps to School Readiness legislation which places greater emphasis on strengthening training and improving the quality of the State's childcare providers.

Seven associate degree programs in Early Care and Education have already been approved by the Commission for implementation. If approved by the Commission, this will be the eighth. (Two others, at Technical College of the Lowcountry and Piedmont Technical College, will be the ninth and tenth, if, as expected, they are also approved.) Still others might be requested later. Despite the relatively large and growing numbers of these programs, Central Carolina Technical College is confident of the success of the program given the growth of the region's childbearing population, the results of an employer survey completed in November 2000, and the federal and state mandates for improved childcare provider services.

In a letter of June 23, 2000, the State Department of Education indicated its support of these programs, but expressed concern that all advisement by faculty and staff as well as all published literature "should be extremely clear that the associate degree [in Early Care and Education] does not lead to certification as a teacher in South Carolina public schools." Also, as each new program proposal of this type has been brought forward in the approval process, each respective

technical college and the staff of the State Board for Technical Colleges has reiterated the position that this program is meant to be a two-year, occupationally-oriented program for immediate employment at the time of graduation, rather than a program designed for transfer to a four-year institution as part of a baccalaureate degree in the field of Early Childhood Education.

Based upon the results of the employer survey conducted by Central Carolina Technical College between August and November 2000, the College has estimated that new job openings for trained professionals in the field of early care and education will total 183 full-time and 55 part-time positions in the service region within the first four years of the program's implementation. This program is not unnecessarily duplicative of the other seven already-approved associate degree programs in Early Care and Education, since each serves its own regional needs.

The program is designed to upgrade both the knowledge and the skills of the 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 the existing Diploma Program (which consists of 42 semester hours of coursework) and the existing Certificate Program (composed of 27 semester hours of coursework) on the career ladder for early childhood care workers. The degree program generically is not intended as a transfer program. However, the curriculum proposed for this particular degree program—unlike several which have been presented to the Commission for approval—contains considerable work in general education. These general education courses are more likely to be acceptable toward a baccalaureate degree in transfer than specialized early care and education courses. It remains important, however, that potential students be made aware that the program will not lead to certification as a teacher in South Carolina's public schools.

The curriculum of the proposed program will consist of 64 semester hours of coursework. Twenty-two (22) semester hours of coursework comprise the degree's general education core. Thirty-three (33) semester hours of credit are in early childhood development; three semester hours are in computer technology; and six semester hours in approved electives complete the degree requirements. Three new Early Care and Education courses will be added to the Catalog of Central Carolina Technical College for this degree program.

Currently, there is one full-time and four part-time faculty members teaching in the area of early care and education within Central Carolina's Certificate and Diploma programs in Early Care and Education. Implementation of the associate degree program will require the addition of only one full-time faculty member during the first three years of its implementation. All current and projected full- or part-time faculty members will possess at a minimum either a

master's degree in Early Childhood Education or a master's degree in a related field with 18 semester hours in Early Childhood Education.

New enrollment for the program is estimated at five students (4 FTE) in the first year; 12 students (14 FTE) in the second year, and 15 students (24 FTE) in the third year. (An FTE count greater than headcount is owed to two reasons: 1) students are estimated to be taking more than 15 hours per semester, and 2) these students are taking summer coursework.)

Specialized program accreditation is currently not available for associate degree childcare programs. However, the institution anticipates applying for national approval of the program through the joint program approval system of the American Associate Degree Early Childhood Educators (ACCESS) and the National Association for the Education of Young Children (NAEYC) by meeting guidelines for professional preparation. This initial step will prepare the program for future accreditation if and when such accreditation becomes available.

Current facilities are adequate, according to the proposal. Likewise, current equipment is also adequate for the program. The College projects a need for some new library materials for the program over the first three years of implementation. Total new costs amount to \$51,450 over the first three full years of the program's implementation. These costs are divided among new faculty (\$38,000 in third year only), supplies and materials (\$1,525), library materials (\$7,725), and equipment (\$4,200).

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state associated with implementation of the proposed program for its first three 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
2002-03	\$35,588	\$0	<b>\$35,588</b>	\$19,600	\$7,266	<b>\$26,866</b>
2003-04	\$102,697	\$0	<b>\$102,697</b>	\$54,407	\$20,968	<b>\$75,375</b>
2004-05	\$127,100	\$0	<b>\$127,100</b>	\$67,062	\$25,950	<b>\$93,012</b>

Given the three-year projection in the program which Central Carolina Technical College submitted, costs generated through the MRR will be more in each year than total revenues generated by the program.

In summary, the college projects that a critical mass of students will enroll in the program because of regional need and national and state mandates, despite the fact that salaries for childcare workers remain low. Given the growth of the region's population base of younger families and the national and state mandates, demand for the program is anticipated to remain relatively high. The program, therefore, appears useful for the region it serves.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Associate in Public Service degree with a major in Early Care and Education at Central Carolina Technical College to be implemented in January 2002, 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**  
**Associate in Public Service**  
**Major in Early Care and Education**  
**Piedmont Technical College**

**Summary**

Piedmont Technical College requests approval to offer a program leading to the Associate in Public Service degree with a major in Early Care and Education to be implemented in Fall 2002. The proposal was approved by the State Board for Technical Colleges on May 22, 2001, and was submitted to the Commission on May 25, 2001. The Advisory Committee on Academic Programs reviewed and approved the completed proposal without substantive comment at its meeting on July 24, 2001.

According to the proposal, there is a great need for the program in the service area of Piedmont Technical College for serving young children in need of daycare services. There is also a mandate found in section 648A of the Federal 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." Another impetus for implementation of this program is the recent passage of the South Carolina First Steps to School Readiness legislation which places greater emphasis on strengthening training and improving the quality of the State's childcare providers.

Seven associate degree programs in Early Care and Education have already been approved by the Commission for implementation. This will be the ninth. (Two others, at Central Carolina Technical College and Technical College of the Lowcountry, respectively, the eighth and tenth, are expected to be approved at the same time as this one.) Still others might be requested later. Despite the relatively large and growing numbers of these programs, the institution is confident of the success of the program given the growth of the region's childbearing population, the results of an employer survey done in Fall 2000, and the federal and state mandates for improved childcare provider services.

In a letter of June 23, 2000, the State Department of Education indicated its support of these programs, but expressed concern that all advisement by faculty and staff as well as all published literature "should be extremely clear that the associate degree [in Early Care and Education] does not lead to certification as a teacher in South Carolina public schools." Also, as each new program proposal of this type has been brought forward in the approval process, each respective technical college and the staff of the State Board for Technical Colleges has

reiterated the position that this program is meant to be a two-year, occupationally-oriented program for immediate employment at the time of graduation, rather than a program designed for transfer to a four-year institution as part of a baccalaureate degree in the field of Early Childhood Education.

Based upon the results of the employer survey conducted by Piedmont Technical College in Fall 2000, the College has estimated that new job openings for trained professionals in the field of early care and education will total 177 full-time and 200 part-time positions in the service region within the first three years of the program's implementation. This program is not unnecessarily duplicative of the other seven approved associate degree programs in Early Care and Education, since each serves its own regional needs.

The program is designed to upgrade both the knowledge and the skills of the 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 the existing Certificate Program at Piedmont Technical College on the career ladder for early childhood care workers. Because the degree program generically is not intended as a transfer program, and given the course array within Piedmont Technical College's model for this program's curriculum, only three or four general education courses are likely to be universally accepted toward a baccalaureate degree in transfer. It remains important, however, that potential students be made aware that the program will not lead to certification as a teacher in South Carolina's public schools.

The curriculum consists of 63 semester hours of coursework. Fifteen semester hours of coursework comprise a general education core, the minimum required by the regional accrediting body, the Southern Association for Colleges and Schools (SACS); 21 are in the target subject area; and 3 are in computer science. The rest of the courses are in additional hours of instruction. Five new courses, all in the field of Early Care Development (ECD), will be added to the Catalog of Piedmont Technical College in order to implement the degree program.

Since the institution has already been offering the Certificate in Early Care and Education and currently employs one full-time and six adjunct faculty who teach in the early care area, implementation of this program will require the addition of only one full-time faculty member and, as unforeseen additional enrollment might require, additional adjunct instructors during the first three years of its implementation. The new full-time faculty member will be required to possess either an MA or MAT degree in Early Childhood Education or Child Development and a minimum of two years teaching experience. The proposal states that all current faculty members in the program are required to possess the master's degree in either Early Childhood Education or Child Development, even though the regional accrediting body only requires a bachelor's degree.

New enrollment for the program is estimated at 36 students (27 FTE) in the first year; 41 students (31 FTE) in the second year, and 46 students (34 FTE) in the third year. This level of student interest will make the program viable from the standpoint of enrollment.

Specialized program accreditation is currently not available for associate degree childcare programs. However, the institution anticipates applying for national approval of the program through the joint program approval system of the American Associate Degree Early Childhood Educators (ACCESS) and the National Association for the Education of Young Children (NAEYC) by meeting guidelines for professional preparation. This initial step will prepare the program for future accreditation if and when such accreditation becomes available.

Current facilities are adequate, according to the proposal. Likewise, current equipment is also adequate for the program. The College projects a need for new library materials for the program over the first three years of implementation. Total new costs for the program amount to \$155,585 over three years. These costs are divided among new faculty (\$141,810), supplies and materials (\$3,700), equipment (\$3,475), facilities (\$1,200), travel (\$1,800), and library materials (\$3,600).

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state associated with implementation of the proposed program for its first three 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
2002-03	\$138,285	\$0	<b>\$138,285</b>	\$0	\$33,736	<b>\$33,736</b>
2003-04	\$157,604	\$0	<b>\$157,604</b>	\$70,820	\$38,460	<b>\$109,280</b>
2004-05	\$174,890	\$0	<b>\$174,890</b>	\$80,689	\$42,696	<b>\$123,385</b>

Given the three-year projection for new student enrollment data for the program which Piedmont Technical College submitted, costs generated through the MRR will be more in each year than total revenues generated by the program.



In summary, the college projects a critical mass of students will enroll in the program because of regional need and national and state mandates. Given the growth of the region's population base of younger families and the national and state mandates, demand for the program is anticipated to remain relatively high. The program, therefore, appears useful for the region it serves.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Associate in Public Service degree with a major in Early Care and Education at Piedmont Technical College to be implemented in Fall 2002, 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**  
**Associate in Public Service**  
**Major in Early Care and Education**  
**Technical College of the Lowcountry**

**Summary**

Technical College of the Lowcountry requests approval to offer a program leading to the Associate in Public Service degree with a major in Early Care and Education to be implemented in January, 2002. The proposal was approved by the State Board for Technical Colleges on May 22, 2001, and was submitted to the Commission on May 25, 2001. The Advisory Committee on Academic Programs reviewed and approved the completed proposal without substantive comment at its meeting on July 24, 2001.

According to the proposal, there is a great need for the program in the service area of the Technical College of the Lowcountry for serving the needs of young children in need of daycare services. There is also a mandate found in section 648A of the Federal 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." Another impetus for implementation of this program is the recent passage of the South Carolina First Steps to School Readiness legislation which places greater emphasis on strengthening training and improving the quality of the State's childcare providers.

Seven associate degree programs in Early Care and Education have already been approved by the Commission for implementation. This will be the tenth. (Two others, at Central Carolina Technical College and Piedmont Technical College will be, respectively, the eighth and ninth, if—as expected—they are approved at the same time as this one.) Still others might be requested later. Despite the relatively large and growing numbers of these programs, the institution is confident of the success of the program given the growth of the region's childbearing population, the results of an employer survey done in Fall, 2000, and the federal and state mandates for improved childcare provider services.

In a letter of June 23, 2000, the State Department of Education indicated its support of these programs, but expressed concern that all advisement by faculty and staff as well as all published literature "should be extremely clear that the associate degree [in Early Care and Education] does not lead to certification as a teacher in South Carolina public schools." Also, as each new program proposal of this type has been brought forward in the approval process, each respective technical college and the staff of the State Board for Technical Colleges has

reiterated the position that this program is meant to be a two-year, occupationally-oriented program for immediate employment at the time of graduation, rather than a program designed for transfer to a four-year institution as a part of a baccalaureate degree in the field of Early Childhood Education.

Based upon the results of the employer survey conducted by Technical College of the Lowcountry in Fall 2000, the College has estimated that new job openings for trained professionals in the field of early care and education will total 107 full-time and 10 part-time position openings (of which 59 will be new full-time and 5 new part-time) in the service region within the first three years of the program's implementation. This program is not unnecessarily duplicative of the other seven approved associate degree programs in Early Care and Education, since each serves its own regional needs.

The program is designed to upgrade both the knowledge and the skills of the 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 on the career ladder for child care workers in programs offered at Technical College of the Lowcountry beyond the existing Diploma program in Early Child Development (45 semester hours) and two certificate programs (one in Early Child Development [27 semester hours] and one in Child Care Management [36 semester hours].) Because the degree program generically is not intended as a transfer program, and given the course array within Technical College of the Lowcountry's curricular model for this program, only four general education courses are likely to be universally accepted toward a baccalaureate degree in transfer. It remains important, however, that potential students be made aware that the program will not lead to certification as a teacher in South Carolina's public schools.

The curriculum consists of 63 semester hours of coursework. Fifteen semester hours of coursework comprise a general education core, the minimum required by the regional accrediting body, the Southern Association for Colleges and Schools (SACS); 21 are required "core subject areas"; three are in cooperative work experience; and 27 are in a category labeled "other hours required for graduation" which are all Early Care Development (ECD) courses. One new course in the field of Early Care and Education will be added to the Catalog of Technical College of the Lowcountry in order to establish the degree program.

Since the institution has already been offering a Diploma and two related Certificates in this field and currently employs one full-time and one part-time faculty member (1.2 FTE) who teach in the early care area, implementation of this program will require the addition of only one part-time adjunct faculty member (.2 FTE) during the first three years of its implementation. According to information from the institutional representatives, the current full-time faculty

member has the master's degree in Early Childhood Education and all adjuncts will also be requested to earn a master's degree either in Early Childhood Education or a related area with at least 18 semester hours in the field.

New enrollment for the program is estimated to begin at 20 students (11 FTE) in the first full year of the program's operations; 20 students (11 FTE) in the second year, and 20 students (12 FTE) in the third year. This projected number of students makes the program appear to be viable from the standpoint of enrollments and will ensure that the Commission's productivity standards are met, assuming projections are met.

Specialized program accreditation is currently not available for associate degree childcare programs. However, the institution anticipates applying for national approval of the program through the joint program approval system of the American Associate Degree Early Childhood Educators (ACCESS) and the National Association for the Education of Young Children (NAEYC) by meeting guidelines for professional preparation. This initial step will prepare the program for future accreditation if and when such accreditation becomes available.

Current facilities are adequate, according to the proposal. Likewise, current equipment is also adequate for the program. The College projects a need for new library materials for the program over the first three years of implementation. Total new costs for the program amount to \$11,050 over three years. These costs are divided among new faculty (\$4,000), supplies and materials (\$1,500), equipment (\$750) and library resources (\$4,800).

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state associated with implementation of the proposed program for its first three full 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
2002-03	\$54,907	\$0	<b>\$54,907</b>	\$7,909	\$12,676	<b>\$20,585</b>
2003-04	\$54,907	\$0	<b>\$54,907</b>	\$28,324	\$12,676	<b>\$41,000</b>
2004-05	\$61,008	\$0	<b>\$61,008</b>	\$31,488	\$14,056	<b>\$45,544</b>

Given the three-year projection for new student enrollment data for the program which Technical College of the Lowcountry has submitted, costs generated through the MRR will be more in each year than total revenues generated by the program.

In summary, the college projects that a sufficient number of students will enroll in the program because of regional need and national and state mandates, despite the fact that salaries for early childcare workers remain low. Given the growth of the region's population base of younger families and the national and state mandates, demand for the program is anticipated to remain relatively high. The program, therefore, appears useful for the region it serves.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Associate in Public Service degree with a major in Early Care and Education at Technical College of the Lowcountry to be implemented in January 2002, 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**  
**Associate in Engineering Technology**  
**Major in Civil Engineering Technology**  
**Technical College of the Lowcountry**

**Summary**

Technical College of the Lowcountry requests approval for a new degree program leading to the Associate Degree in Engineering Technology in Civil Engineering Technology, to be implemented in January 2002.

The State Board for Technical and Comprehensive Education approved the proposal at its meeting on May 22, 2001. The Commission's Advisory Committee on Academic Affairs reviewed the proposal at its July 24, 2001, meeting. Discussion centered on the possibility of working out a "2+2" articulation agreement between Technical College of the Lowcountry (TCL) and The Citadel. (Subsequent to the meeting, Commission staff have confirmed with both institutions that negotiations are still underway to develop a formal articulation agreement. In particular, representatives from The Citadel noted that they are eager to formalize such an arrangement.) - The Committee unanimously recommended approval of the proposed new degree program.

According to the proposal, the purpose of the new program is to provide students with the education and training to work as technicians "in engineering design, drafting, surveying, and construction." At the same time, TCL hopes to address the employer needs in its four-county service area related to civil engineering technology—needs that have become more acute as the region's transportation and land development infrastructures have grown to match population growth. A survey of pertinent employers in the service area reveals approximately 140 full-time and part-time openings in the civil engineering technology field over the next three years.

The Associate in Engineering Technology (AET) in Civil Engineering Technology will require students to complete 77 semester credit hours for graduation. These requirements include 15 hours in general education, 16 credit hours in required core subject areas such as engineering surveying, introduction to engineering, statics and strength of materials, etc., and 46 additional hours taken from among engineering technology, mathematics, and physics courses. TCL will add 16 new courses to its catalog, 14 of which are engineering technology courses to be taught by TCL instructors and two of which are a physics sequence (Physics I and II) to be taught by instructors from USC-Beaufort. Importantly, too, TCL will seek accreditation through the Accreditation Board for Engineering and Technology (ABET) upon implementation of the proposed new program.

Currently, several other technical colleges within the South Carolina Technical College System offer the AET in Civil Engineering Technology, and all report relatively healthy enrollments in the program. The closest program to TCL is offered by Trident Technical College in Charleston.

Technical College of the Lowcountry projects that new enrollments will begin at 12 headcount students in Spring 2002 and will vary between 5 and 12 new students each semester thereafter for the first three years of operation.

To account for the high number of new courses required to implement this new degree program, TCL will hire one full-time faculty member, who will teach the great majority of courses in the major each semester. Additionally, the College will hire adjunct faculty to cover 0.2 of an FTE in year two of operation (2002-2003) and another 0.2 of an FTE in year three of operation (2003-04). Thus, 1.4 new faculty FTE will be required to implement the program over the first three years of operation.

Aside from \$174,800 in new faculty costs, TCL will also incur significant new equipment costs related to the development of laboratory space for proposed AET in Civil Engineering Technology. These costs, estimated at just over \$68,000, will be used to convert an existing campus space into a civil engineering testing laboratory. Additionally, the College projects spending \$12,500 for supplies and materials, \$3,600 for new library resources, and \$10,000 to underwrite accreditation costs.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state and new costs not funded by the MRR associated with implementation of the proposed program for its first three 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
2002-03	\$58,882	\$0	\$58,882	\$0	\$9,246	\$9,246
2003-04	\$34,348	\$0	\$34,348	\$30,061	\$5,250	\$35,311
2004-05	\$46,615	\$0	\$46,615	\$17,674	\$7,371	\$25,045

These data demonstrate that if Technical College of the Lowcountry meets the projected student enrollments and contains costs as they are shown in the proposal, the program will not be able to cover new costs with revenues it generates by the

third year of its implementation. However, it is important to note that TCL will use revenue from a Beaufort County capital equipment fund to underwrite new equipment costs for the proposed new program.

In summary, the proposed program leading to the Associate in Engineering Technology degree in Civil Engineering Technology will serve an important role in the South Carolina lowcountry for meeting the infrastructure development needs of a fast-growing region of the state. While costs for the program are high relative to enrollments, the College has in place a plan to meet many of these costs. Further, employability for graduates from the program should be quite good given the demand expressed by industry in the service area. The staff strongly encourages both TCL and The Citadel conclude their work to formalize and implement a strong articulation agreement for students interested in pursuing a baccalaureate degree in civil engineering as soon as possible.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Associate in Engineering Technology degree in Civil Engineering Technology at Technical College of the Lowcountry for implementation in January 2002, provided that no "unique cost" or other special state funding be required or requested.



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

**Summary**

Coastal Carolina University requests approval for a new degree program leading to the Bachelor of Arts in Philosophy, to be implemented in January 2002.

The University's Board of Trustees approved the program on May 3, 2001. The Commission's Advisory Committee on Academic Programs reviewed the proposal at its July 24, 2001, meeting. Discussion centered on Coastal's ability to provide the breadth and depth of instruction required for the new major in light of the fact that some of the faculty in the proposed program do not hold terminal degrees. Representatives from Coastal explained that the faculty without terminal degrees are experienced educators, especially in the main focus area for the proposed new major, ethics. Subsequent to these discussions, the Committee voted unanimously to recommend approval of the proposed new program.

As with any core degree program in the liberal arts, the purposes of the proposed new degree program in philosophy are focused mainly on the development of critical, analytical, and interpretive thinking. The University hopes to provide students the following competencies: 1) an acquaintance with major philosophers and their ideas; 2) the ability to engage in philosophical problems related to mind and reality, language, religion, and science; 3) a grounding in logic; and, 4) experience in applying philosophical analysis to the solution of societal problems. Additionally, Coastal proposes to focus particular attention on the study of ethics, especially as it relates to areas such as business, medicine, the environment, and technology. In this fashion, the University hopes to enable students to see applications for philosophical analysis in the world around them.

Currently, Clemson University, College of Charleston, and USC-Columbia offer baccalaureate programs in philosophy. Winthrop University offers a combined philosophy and religious studies major. Owing to the fact that philosophy is a core discipline within the mission of the comprehensive university and given the fact that Coastal's strong focus on ethics within its proposed degree program is unique within the state, the Commission staff does not believe that program duplication is a concern.

Coastal Carolina anticipates new enrollments in the proposed Bachelor of Arts in Philosophy to be relatively small, beginning with three new full-time students in Fall 2002 and increasing to 13 full-time students by Fall 2005. Also, it is important to note that the University anticipates that between four and six students will transfer from other majors into the new philosophy major in each of the first four years of operation. Nonetheless, Coastal will need to take great care to ensure that enrollments in the proposed new program meet the Commission's program productivity standards.

The curriculum for the proposed new degree program will require students to complete 120 semester credit hours for graduation. These credits are broken out in the following fashion: 44-52 credits in the University's core curriculum (general education); nine credits of foundation courses in philosophy; 30 credits in the major, drawn from logic, ancient and modern philosophy, area requirements (epistemology or metaphysics), ethics, and upper-division philosophy electives; 12-24 credits in a cognate or minor; and 12-30 credits in electives. Coastal Carolina will add four new courses to its catalog to support the proposed program in Philosophy: 18<sup>th</sup> and 19<sup>th</sup> Century Philosophy, Epistemology, Metaphysics, and a Capstone Seminar.

There are no new faculty or staff required to implement the new major, which will be administered by the Department of Philosophy and Religious Studies. The only new costs associated with the program come in the form of a \$4000 per year allocation for additional library resources.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state 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	\$0	\$0	\$0	\$0	\$0	\$0
2002-03	\$26,670	\$0	\$26,670	\$0	\$21,084	\$21,084
2003-04	\$38,100	\$0	\$38,100	\$11,909	\$29,489	\$41,398
2004-05	\$68,580	\$0	\$68,580	\$17,259	\$53,585	\$70,844
2005-06	\$99,060	\$0	\$99,060	\$30,870	\$77,050	\$107,920

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 be able to cover new costs with revenues it generates by the third year of its implementation.

In summary, Coastal Carolina's proposal for a new degree program in philosophy is a welcome addition to the University's program array, especially in light of Coastal's expressed mission as a comprehensive liberal arts university. The degree program's emphasis on ethics as a means of linking philosophical inquiry to societal problems is particularly praiseworthy and will provide students with a much needed context for understanding the complexities of the postmodern world, whether in a professional setting or in their personal lives. Costs are low, and the program should be self-supporting by the third year of operation. The Commission staff does present one caution: Coastal should strive to ensure that the program meets the Commission's program productivity standards.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Bachelor of Arts degree in Philosophy at Coastal Carolina University for implementation in January 2002, provided that no "unique cost" or other special state funding be required or requested.

**New Program Proposal**  
**Bachelor of Arts in Special Education**  
**Coastal Carolina University**

**Summary**

Coastal Carolina University requests approval to offer a program leading to the Bachelor of Arts degree in Special Education-Learning Disabilities to be implemented in January 2002.

The Board of Trustees approved the proposal on May 3, 2001. This proposal was submitted for Commission review on May 14, 2001. The proposal was reviewed without substantive comment and voted upon favorably by the Advisory Committee on Academic Programs at its meeting on July 24, 2001.

The purpose of the program is to train teachers to teach learning disabled students effectively in K-12 schools. Graduates of the program will have been trained in diagnostic, instructional, and assessment skills required to work with children who are learning disabled. These students typically are identified as having difficulties in acquiring and using listening, speaking, reading, writing, reasoning, or mathematical skills.

The need for the program is based on the constant critical shortage of teachers in special education. This teaching area has been identified by the South Carolina Board of Education as a critical shortage area for numerous years and is eligible for the S.C. Teacher Loan Program. Coastal Carolina also reports the results of a survey conducted by the S.C. Center for Teacher Recruitment that indicated that of the 66 districts responding, 86 percent indicated special education as a critical need area. A survey of the nine districts in the Coastal Carolina service area reported similar teacher needs.

Special education undergraduate degree programs are offered at Clemson University (general degree), the College of Charleston (Emotionally Disabled, Mentally Disabled, and Learning Disabled), Lander University (general degree), Winthrop University (Mildly Disabled and Severely Disabled), and South Carolina State University (Educable Mentally Handicapped, Emotionally Handicapped, Learning Disabled, and Trainable Mentally Handicapped). A program in Learning Disabled was recently approved by the Commission for implementation at USC-Spartanburg. Because of the constant shortage of certified special education teachers in all concentrations, the S.C. Department of Education has encouraged development of new programs in special education at both public and private institutions of higher education. The Commission has been supportive of this

development in approving additional programs to help ease the critical shortage of special education teachers.

The curriculum consists of a total of 122 to 128 credit hours. Forty-seven to 53 credit hours are in general education, 15 credit hours are in education foundations, 48 credit hours are in professional education and 12 hours are in electives. Coastal Carolina will add twelve new courses over the next five years. The proposed program is based on the standards of the Council for Exceptional Children (CEC). The program proposal identified which courses address the standards of the CEC. Staff of the S.C. Department of Education have examined the program proposal and indicate that the proposed program sufficiently addresses the global standards required of new teacher education programs.

Coastal Carolina indicates that it will be necessary to hire two new faculty members in the second and fourth years of the program. New faculty will be required to have a terminal degree in special education and experience in working in public schools. Existing faculty serving the program will be six headcount or 5 FTE. This will increase to eight headcount (7 FTE) by the fourth year of the program.

Enrollments in the proposed program are estimated to begin at four headcount students in FY 2001-02 and increase to 20 headcount students in FY 2005-06. An additional four students are expected to transfer into the new program from other programs each year for the first five years, bringing total headcount enrollments to 24 by the program's fifth year. Enrollments are based on a survey of undergraduate students at the University. The program will meet CHE's current program productivity standards.

The proposed program will be subject to accreditation by the National Council for the Accreditation of Teacher Education (NCATE). Coastal Carolina will be required to prepare a program report for review by the Council for Exceptional Children which will be submitted to NCATE in Spring 2003.

There are no physical plant or equipment needs for the proposed program. The proposal presents results from quantitative and qualitative analyses of library resources to support the program. The results indicated that Coastal Carolina will need actively to build the holdings in the area of special education. Resources to support this goal will begin at \$2,576 in FY 2001-02 and increase to \$2,956 in FY 2005-06 for a total allocation of \$13,813. New costs for the program range from \$2,576 in its first year to \$80,892 in the fifth year, to total \$202,687. These costs consist entirely of faculty salaries for two new faculty and library resources.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state 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
2000-01	\$17,249	\$0	<b>\$17,249</b>	\$0	\$14,079	<b>\$14,079</b>
2001-02	\$40,247	\$0	<b>\$40,247</b>	\$7,841	\$32,851	<b>\$40,692</b>
2002-03	\$63,246	\$0	<b>\$63,246</b>	\$18,297	\$51,623	<b>\$69,920</b>
2003-04	\$89,119	\$0	<b>\$89,119</b>	\$28,753	\$72,426	<b>\$101,179</b>
2004-05	\$114,992	\$0	<b>\$114,992</b>	\$40,632	\$93,229	<b>\$133,681</b>

These data demonstrate that if Coastal Carolina University can meet the projected student enrollments and contain costs as they are shown in the proposal, the program will be able to cover new costs with revenues it generates by the second year of its implementation.

In summary, the proposed program is meeting a critical teaching need in the State. Graduates of the program will be in demand not only in the districts adjacent to Coastal Carolina but in other districts across the state. The program has been designed to meet national and state standards for special education.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Bachelor of Arts degree in Special Education-Learning Disabilities at Coastal Carolina University, to be implemented in January 2002, provided that no "unique cost" or other special state funding be required or requested.

**New Program Proposal**  
**Master of Arts in Teaching**  
**Coastal Carolina University**

**Summary**

Coastal Carolina University requests approval to offer a program leading to the Master of Arts in Teaching degree to be implemented in January 2002. Areas of concentration will be in art, English, foreign languages, mathematics, music, social studies, and science.

The Board of Trustees approved the proposal on May 3, 2001. This proposal was submitted for Commission review on May 14, 2001. The proposal was reviewed without substantive comment and voted upon favorably by the Advisory Committee on Academic Programs at its meeting on July 24, 2001.

The purpose of the proposed program is to provide two tracks of study that will lead to teacher certification in art, English, foreign languages, mathematics, music, social studies, and science. The first track of study will be for students who pursue a four-year undergraduate degree in a content area at Coastal Carolina and finish in the fifth year of study with the Master of Arts in Teaching (MAT) degree. The second track is designed for students who have completed a baccalaureate degree at another institution or students at Coastal who are "late deciding majors."

The need for the program is based upon state supply and demand data that indicate the need for a larger pool of teachers. According to a report of the South Carolina School Boards, South Carolina will need between 8,000 and 10,000 more teachers in the next five to seven years. Coastal Carolina also notes in the program proposal that it has become difficult to prepare discipline-specific teachers within a four-year program. The current baccalaureate degree program in secondary education at Coastal Carolina requires a double major. The proposal notes that this double major requires a large number of credit hours to be completed within four years. Students currently take between 139 and 145 credit hours depending upon the discipline. In the new program, the undergraduate major would take 10 credit hours of education courses and typically another 120 credit hours in the discipline major. Coastal Carolina will be replacing its current Secondary Education degree with the proposed MAT degree.

There is clearly a school of thought that has advocated five-year teacher preparation programs for many years, most visibly promoted by the consortium of institutions known as the Holmes Group. However, the staff would be remiss in not pointing out enrollment data from USC-Columbia that raises concerns about possible enrollment declines during the transition from the undergraduate to graduate certification program. In 1995, USC-Columbia, a member of the Holmes Group, initiated a five-year program entitled Master of Teaching in Secondary Education. It is the only five-year program at a public institution. Therefore, staff

recommend that Coastal Carolina carefully monitor enrollment in the proposed program since the state can ill afford dramatic reductions in the number of teachers produced. Lander University discontinued its secondary undergraduate major in English and opted for only a MAT in English (secondary education). The program saw a dramatic drop in English teachers and Lander has since re-instituted the bachelor's degree in Secondary English. Given the current and projected teacher shortages, some states, like California, an institution that had adopted five-year programs exclusively, are moving to add four-year programs.

An additional point that should be noted concerns the cost to the State and its taxpayers. Costs to train teachers for initial certification at the graduate level are greater in terms of FTE costs than they are for undergraduate programs. The staff are concerned that if there is a move to five-year teacher training programs, this will cause an increase in the cost to the State to train its teacher workforce. Student performance data should be carefully monitored (e.g. pass rates on licensure exams) since, clearly, improved student performance would be justification for the increased costs inherent in shifting initial teacher preparation to the graduate level.

Despite these caveats, the staff recognizes the apparent challenges in preparing teachers within a limited timeframe when teachers are increasingly expected to know and to be able to perform more and more at higher and higher levels.

The proposed curriculum is divided into two tracks: A and B. Track A is for those candidates who have completed the baccalaureate degree at Coastal Carolina and who have indicated they will pursue the MAT degree. The track will require a minimum of 36 credit hours. In the undergraduate program, the student will have a completed ten hours of education study. For the 36 hours of graduate study, the student will complete 24 credit hours in education and 12 hours in the content area. Track B is designed for candidates who received the baccalaureate degree in a related discipline at another institution or for Coastal Carolina students who did not complete the undergraduate education courses. The program will require a minimum of 45 credit hours with 33 credit hours in education and 12 hours in the content area. A total of 15 new courses will be added to the curriculum for the proposed program.

Coastal Carolina has indicated that the undergraduate secondary education major will be terminated. As of Fall 2001, no new students have been accepted into the secondary education major. Students currently in the program will have until Fall 2004 to graduate. After the Fall 2004 semester, no graduates will be reported for the secondary education major.

Coastal Carolina indicates that no new faculty will be required for the proposed program. Current faculty serving the program are 12 headcount or 3.96 FTE. This will remain the same for the first five years of the program. Coastal Carolina has budgeted \$16,000 per year for the first three years and \$18,000 for



the fourth and fifth years faculty salaries for adjuncts to serve in a supervisory capacity. Additional supervisors will be required as one program is phased out and the other added.

Enrollments in the proposed program are estimated to begin at eight headcount students in FY 2001-02 and increase to 25 headcount students in FY 2005-06. Enrollment estimates are based on current enrollment figures for the undergraduate secondary education program. There are no employment concerns for graduates from this program as there is a teacher shortage and there is a continual demand for teachers with secondary certification. If met, the enrollment projections will enable the program to meet the Commission's current productivity standards.

The proposed program will be subject to accreditation by the National Council for the Accreditation of Teacher Education (NCATE). Coastal Carolina will be required to prepare for the various discipline areas program reports that will be submitted through NCATE to the national specialty organizations. These reports will be submitted in Spring 2003. Staff from the S.C. Department of Education have reviewed the program proposal and have indicated that the proposal sufficiently addresses the global standards required of new teacher education programs.

There are no physical plant or equipment needs for the proposed program. The University completed a quantitative analysis of current holdings and indicates that no additional support above the current funding of \$30,000 per year would be needed to support education holdings. Total new costs for the program range from \$18,500 in its first year to \$23,500 in the program's fifth year, totaling \$135,000. These costs include \$23,500 for supplies and materials, and \$90,000 in adjunct faculty salaries.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the State 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	\$68,204	\$0	<b>\$68,204</b>	\$0	\$19,685	<b>\$19,685</b>
2002-03	\$91,950	\$0	<b>\$91,950</b>	\$37,667	\$27,943	<b>\$65,610</b>
2003-04	\$125,052	\$0	<b>\$125,052</b>	\$52,448	\$37,254	<b>\$89,702</b>
2004-05	\$158,154	\$0	<b>\$158,154</b>	\$71,097	\$47,205	<b>\$118,303</b>
2005-06	\$202,290	\$0	<b>\$202,290</b>	\$89,268	\$60,965	<b>\$150,233</b>

These data demonstrate that even if Coastal Carolina 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, Coastal Carolina has designed the proposed program to replace its double major in secondary education. The program will allow those students who have obtained undergraduate degrees in art, English, foreign languages, mathematics, music, social studies, and science to complete a master's level degree and be eligible for certification in South Carolina. Coastal Carolina's rationale for the proposed change in its secondary education major is that the program, as currently configured, requires too many credit hours (139-145) for a typical undergraduate program. They believe that students' majoring in the discipline and then obtaining professional education and additional content courses at the graduate level will provide secondary education teachers with strong content and preparation. As noted above, the staff raise concerns about a potential enrollment decrease in secondary education at Coastal Carolina as well as increased costs to the taxpayers. Therefore, while supporting the program, the staff urges the University to monitor carefully enrollments, have in place a plan to minimize decreases in enrollment, and establish a longitudinal study to measure the effects of the new program configuration on student performance as gauged against a control group of students in the undergraduate program.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Master of Arts in Teaching degree at Coastal Carolina University, to be implemented in January 2002, provided that no "unique cost" or other special state funding be required or requested, and provided further that Coastal Carolina University terminate the baccalaureate degree in secondary education beginning Fall 2001 with no new students admitted at that time. Students currently in the secondary education major will have until Fall 2004 to complete the degree after which time no additional students will be allowed to graduate from the program.

**New Program Proposal**  
**Master of Education Degree in Educational Technology**  
**Coastal Carolina University**

**Summary**

Coastal Carolina University requests approval to offer a program leading to the Master of Education degree in Educational Technology to be implemented in January 2002.

The Board of Trustees approved the proposal on May 3, 2001. This proposal was submitted for Commission review on May 14, 2001. The proposal was reviewed without comment and voted upon favorably by the Advisory Committee on Academic Programs at its meeting on July 24, 2001.

The purpose of the proposed program is to prepare teachers who can work in school settings as specialists, instructors, coordinators, or classroom teachers skilled in technology applications. Graduates of the program will be able to design, develop, and manage instructional systems and products.

The need for the program is based on Executive Order 99-33 which established the South Carolina Technology Initiative 2000. This order requires strong partnerships of industry, schools, higher education, and government in technology initiatives. Coastal Carolina also conducted a survey of 850 school personnel in its service area. Approximately 19 percent indicated Technology Education as the second most desired graduate-level program.

The only other graduate-level program in Educational Technology is offered at USC-Columbia. USC-Columbia and USC-Aiken are in the process of developing a collaborative program which will serve Aiken's service area. In addition, Lesley College offers a Master's degree in Technology Education and currently has 44 teachers enrolled in the Conway/Myrtle area. With the increased use of technology in P-12 schools, it is expected that there will need to be an increase in the number of programs to enhance teacher skills in technology.

The curriculum is based on the standards of the International Society for Technology Education (ISTE). The curriculum consists of a total of 36 credit hours. Of these, 18 hours are in basic studies, 12 hours are in core studies, and six hours are electives. Thirteen new courses will be added to the curriculum. The course descriptions provided by Coastal Carolina are calibrated to the ISTE standards. Staff of the S.C. Department of Education have also examined the curriculum and indicate that the program proposal sufficiently addresses the global standards required of new teacher education programs.

Coastal Carolina indicates that it will be necessary to hire one faculty member during the second year of the program. The faculty member will be full-time, tenure-track within the area of Instructional Design and Leadership. Existing education faculty serving the program will be one headcount (1 FTE). This will increase to two headcount (2 FTE) by the second year of the program. In addition, four faculty from computer sciences will also serve the program as well as adjuncts (Ph.D.-level) from the Horry County School District. Verbal communication with the Dean of the College of Education indicates that this support external to the College of Education will be a minimum of one FTE, bringing the entire support for the program to approximately three FTE.

Enrollments in the proposed program are estimated to begin at five headcount students in FY 2001-02 and increase to 17 headcount students in FY 2005-06. Enrollments are based on the enrollments of the Lesley College program and the survey of teachers in Coastal Carolina's service area. Students in the program will primarily be currently practicing teachers. The enrollment projections will meet the current CHE program productivity standards.

The proposed program will be subject to accreditation by the National Council for the Accreditation of Teacher Education (NCATE). Coastal Carolina will be required to prepare a program report for review by the International Society for Technology Education which will be submitted to NCATE in Spring 2003.

There are no physical plant needs for the proposed program. The proposal does indicate equipment needs to maintain technology at cutting-edge levels. Items that have been noted in the equipment request include workstations, project devices, laptops, network equipment, peripheral devices and appropriate software. The University has a technology fee program that provides an annual commitment to the College of Education that will be used to support the equipment needs. The equipment needs are estimated to begin at \$21,500 in FY 2001-02 and increase to \$26,500 in FY 2005-06. The total equipment amount for the first five years of the program is estimated to be \$124,500.

Coastal Carolina has performed both a quantitative and qualitative analysis of the library resources. The results of these analyses indicates that Coastal Carolina will actively need to build its collection in the area of Educational Technology. A modest allocation of \$4,120 will enhance holdings during the program's first three years. Total costs for the first year of the program are projected to be just over \$300,000. In addition to salary costs (\$111,588), equipment costs (\$99,500), and library costs (\$4,120), \$28,000 is allocated across the program's first five years for supplies and materials, including software.

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
2000-01	\$39,941	\$0	<b>\$39,941</b>	\$0	\$10,798	<b>\$10,798</b>
2001-02	\$66,204	\$0	<b>\$66,204</b>	\$19,867	\$19,685	<b>\$39,552</b>
2002-03	\$99,306	\$0	<b>\$99,306</b>	\$37,667	\$30,059	<b>\$67,726</b>
2003-04	\$105,436	\$0	<b>\$105,436</b>	\$56,687	\$31,752	<b>\$88,439</b>
2004-05	\$119,535	\$0	<b>\$119,535</b>	\$60,077	\$35,561	<b>\$95,638</b>

These data demonstrate that even if Coastal Carolina 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 has been designed to meet the needs of practicing teachers who wish to enhance their technology training. The curriculum has been designed to meet the standards of the International Society for Technology in Education. Graduates of the program will be able to fill a variety of positions in K-12 and higher education.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Master of Education degree in Education Technology at Coastal Carolina University, to be implemented in January 2002, provided that no "unique cost" or other special state funding be required or requested.

**New Program Proposal**  
**Master of Science in Environmental Health Sciences**  
**USC-Columbia**

**Summary**

USC-Columbia requests approval to offer a program leading to the Master of Science degree in Environmental Health Sciences to be implemented in January 2002.

The Board of Trustees approved the proposal on June 22, 2001. This proposal was submitted for Commission review on May 15, 2001. The proposal was reviewed without comment and voted upon favorably by the Advisory Committee on Academic Programs at its meeting on July 24, 2001.

The purpose of the proposed program is to provide a course of study that will graduate master's trained researchers who have a broad technical background in environmental health sciences. The proposed degree program will combine needed subject matter and specific technical skills in the multi-disciplinary area of environmental health sciences. The proposed program has been designed to produce graduates who can work effectively as environmental health researchers in the public and private sectors.

According to the proposal, the need for the program is based on job market demands for individuals with terminal master's degrees. The job market in environmental health sciences has seen an increase in the need for master's trained researchers who come from a multi-disciplinary graduate program. The School of Public Health currently offers masters-level degrees in public health; however, the proposal claims that graduates from these programs do not fit the needs of employers in the environmental health sciences arena. No quantitative data about employers' needs were supplied in the program proposal. Communication with the chair of the department indicates that the program was developed based on numerous interviews with prospective students and on requests by current students. Prospective students have consistently inquired if such a program is available, and current students have attempted to configure such a program through current degree programs. The department developed the proposed program based on these requests.

The only other program in the State that is similar in scope is MUSC's master's degree program in epidemiology. One area of emphasis within this program is environmental health, but the program's focus is on the identification and study of factors leading to disease and disability, with the ultimate goals of prevention and control. While the USC-Columbia program focus is on

environmental health, it is more weighted toward toxicology issues, industrial applications, and technical skills.

The curriculum consists of a minimum of 36 credit hours. Of these, at least 18 credit hours must be in environmental health sciences, 12 credit hours in electives related to quantitative and technical skills, and six hours in thesis research. Each student in the program must submit a Program of Study upon completion of 15 credit hours. Each student will be required to complete six hours of coursework in statistics and biostatistics at the 600 or above course level. A student's program of study will be designed in consultation with a faculty advisor based upon the student's research interests and prior educational and professional experiences. No new courses will be required.

USC-Columbia indicates that no new faculty will be required to support the proposed program. Existing faculty serving the program will begin at nine headcount or 1.0 FTE in FY 2001-02 and will increase to 15 headcount or 2.50 FTE in FY 2005-06. There will be no change in current assignments or any modification of faculty responsibilities to implement the proposed program. Faculty supporting the program will come from the Department of Environmental Health Sciences and from the Colleges of Public Health and Science and Mathematics.

Enrollment in the proposed program is estimated to begin at five headcount students in FY 2001-02 and increase to 15 headcount students in FY 2005-06. The University has indicated that enrollment estimates are based on interest from current students in the College of Public Health and employer interest in such graduates from the program. If the enrollment projections are met, the program will meet the current CHE program productivity standards.

According to the proposal, no new costs will be incurred by the program. There are no physical plant or equipment needs for the proposed program. The library holdings are deemed to be adequate in that they currently support other programs in environmental health sciences. The USC-Columbia library is ranked in the top 50 collegiate libraries in the country.

Specialized accreditation from state or national organizations is not available for the program. However, several other programs in the School of Public Health are accredited by the Council on Education in Public Health and the Accreditation Board of Engineering and Technology.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state 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	\$120,294	\$0	<b>\$120,294</b>	\$0	\$26,715	<b>\$26,715</b>
2002-03	\$170,417	\$0	<b>\$170,417</b>	\$63,640	\$37,832	<b>\$101,472</b>
2003-04	\$210,515	\$0	<b>\$210,515</b>	\$90,837	\$46,737	<b>\$137,574</b>
2004-05	\$250,613	\$0	<b>\$250,613</b>	\$112,049	\$55,642	<b>\$167,692</b>
2005-06	\$330,809	\$0	<b>\$330,809</b>	\$133,263	\$72,534	<b>\$205,797</b>

These data demonstrate that even if the USC-Columbia 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, USC-Columbia proposes to offer a program that has been designed to train master-level researchers for positions in environmental health sciences. Graduates of the program will have backgrounds in both content and technical skills to fill research-level positions in the public and private sector.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Master of Science degree in Environmental Health Sciences at USC-Columbia, to be implemented in January 2002, provided that no "unique cost" or other special state funding be required or requested.



**New Program Proposal**  
**Professional Master's Program in the Sciences**  
**University of South Carolina-Columbia**

**Summary**

The University of South Carolina-Columbia requests approval for a new degree program leading to the Professional Master's Program in the Sciences (PMPS) with three concentrations (Modeling for Corporate Applications, Biotechnology, and Environmental Geosciences), to be implemented in January 2002.

The University's Board of Trustees approved the proposal for the degree program at its April 12, 2001, meeting. The Commission's Advisory Committee on Academic Programs considered the program at its July 24, 2001, meeting. At this meeting, a representative from Clemson University voiced concern that the Environmental Geosciences concentration of the degree might be duplicative of Clemson's degree programs in this field. The Committee voted unanimously to recommend approval of the proposal without further substantive comment.

The purpose of the degree program is to "prepare students for business and management positions in corporate settings where advanced technical skills from specific science disciplines are required." Specifically, the concentration in Modeling for Corporate Applications will enable graduates to gain employment with "companies that can benefit from mathematical modeling and simulation, ranging from financial consulting and investment firms to manufacturers and distributors of electronic components." The concentration in Biotechnology is designed to allow graduates to apply "molecular techniques, transgenic plant studies, tissue culturing, and DNA sequencing" to work with biotech companies. And, the concentration in Environmental Geosciences will "familiarize students with hydrology, ground and surface water modeling and other aspects of environmental geoscience" requisite for work with companies and agencies that deal with land and water usage.

There is a core curriculum framework for the proposed degree program to which each concentration within the degree program will adhere. Each concentration will require courses in the sciences that are pertinent to each respective area of study (i.e., physics for Corporate Modeling, biology for Biotechnology, and geology for Environmental Geosciences). Additionally, each concentration will require relevant coursework in business and accounting or in multidisciplinary courses that link business and management to the area of science under study. And, finally, each concentration will require students to complete an internship with a corporate or governmental entity that will enable students to gain

hands-on experience relative to their field of study. The degree program will require at least 36 semester credit hours for graduation.

Currently, no other institution in South Carolina offers a master's degree program that combines significant coursework in the sciences with coursework in business and management. Clemson University offers a Master of Science degree in Environmental Engineering and Science, the Master of Science degree in Environmental Toxicology, and the Master of Science degree in Hydrogeology, all of which require some similar coursework to the proposed PMPS concentration in Environmental Geosciences at USC. However, these programs at Clemson do not require coursework in business and management, although students could possibly opt to take electives coursework in these areas.

The University anticipates enrolling approximately ten new students in the proposed new degree program in Spring Semester 2002. Enrollments should grow to approximately 20 full-time students by Fall 2002 and then stabilize at 25 full-time students by Fall 2003. USC does believe that the proposed new concentration in Biotechnology will likely enroll a few more students each year than the Modeling for Corporate Applications and the Environmental Geosciences concentrations. If these projections are met, the program will be able to meet the Commission's program productivity standards with little trouble.

USC will not need to hire any additional faculty members to implement the proposed degree program, although one faculty member from each discipline area (physics, biology, and geology) will need to obligate 10 percent of his/her existing schedule to manage and advise in his/her respective concentration area. The University will hire one new full-time administrative staff member and obligate 10 percent of another staff member's time to help manage the proposed new program.

According to the proposal, the University does not anticipate the need for any new equipment to implement the program. Likewise, existing facilities on the Columbia campus should suffice to accommodate the needs of the PMPS.

USC does anticipate new costs associated with curriculum development, supplies and materials, recruitment, new staff and clerical support hires, and distance learning technology. Total new costs for the proposed PMPS are projected to range from \$146,800 in the first year to \$134,000 in year five, totaling \$690,800 over the first five years. A grant from the Sloan Foundation, an organization that is fostering development of similar degree programs throughout the country, will underwrite costs associated with the proposed program for the first three years of implementation (2002 through 2004). USC projects spending \$146,800, \$137,500, and \$138,500 of the grant funds during each of the first three years respectively. USC projects that tuition and fees will help cover new costs subsequent to the lapse in grant funding.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state and new costs not funded by the MRR associated with implementation of the proposed program for its first five years of operation. 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	\$178,363	\$0	\$178,363	\$0	\$38,375	\$38,375
2002-03	\$321,053	\$0	\$321,053	\$93,025	\$68,275	\$161,300
2003-04	\$642,105	\$0	\$642,105	\$165,261	\$136,982	\$302,243
2004-05	\$802,631	\$0	\$802,631	\$332,380	\$171,796	\$504,176
2005-06	\$802,631	\$0	\$802,631	\$416,346	\$171,796	\$588,142

These data demonstrate that if the University of South 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, the proposed Professional Master's Program in the Sciences with concentrations in Modeling for Corporate Applications, Biotechnology, and Environmental Geosciences is a well-conceived program that will help meet the present and future needs of South Carolina's emerging high tech industry. The program's multidisciplinary approach to applying scientific knowledge to business concerns is a much-needed addition to the state's overall academic program array. The Commission staff is convinced of the integrity and relevance of this innovative new master's program and is supportive of its implementation.

### **Recommendation**

The Committee recommends that the Commission approve the program leading to the Professional Master's Program in the Sciences degree with concentrations in Modeling for Corporate Applications, Biotechnology, and Environmental Geosciences at USC-Columbia for implementation in January 2002, provided that no "unique cost" or other special state funding be required or requested.