

**New Program Proposal**  
**Bachelor of Science in Engineering Technology Management**  
**USC-Upstate**  
**At Spartanburg Campus and University Center-Greenville**

**Summary**

USC-Upstate requests approval to offer a program leading to the Bachelor of Science in Engineering Technology Management to be implemented in Fall 2006, immediately upon approval by the Commission, at both USC-Upstate's home campus in Spartanburg and the University Center in Greenville.

The USC Board of Trustees approved the program on April 20, 2006. The proposal was submitted to the Commission for review on May 1, 2006. The proposal was reviewed without substantive comment and voted upon favorably by the Advisory Committee on Academic Programs at its meeting on July 31, 2006.

USC-Upstate has as its mission the offering of programs of unique benefit for traditionally-aged and older students in the Upstate region which the institution serves. The emphasis in the proposed program will be on preparing students with skills, competencies, and knowledge bases necessary to function as professional persons in the management of manage human and financial resources associated with engineering technologies in the growing industrial and manufacturing sector of the Upstate.

There is one other baccalaureate offering in technology in the Upstate region, i.e., South Carolina State University's B.S. in Electrical Engineering Technology at the University Center in Greenville. That program, however, is specifically geared to goals of students who are preparing to be electrical engineering technology specialists. South Carolina State University also offers several concentrations in the B.S. in Engineering Technology at the Orangeburg campus of the University, a distance of three to four hours from the Upstate's populations. There is also a two-plus-two Engineering Technology baccalaureate completion program at Francis Marion University in Florence. However, that program is small and at great distance to the Upstate's part-time adult commuter population, making it inaccessible to the population that this proposed program seeks to serve.

The current proposal is somewhat similar to a previous program, the Bachelor of Science in Management of Technology at USC-Upstate (approved in 1997; closed in 2000), but differs from that earlier program in several important ways. Specifically, unlike its predecessor which had a curriculum heavily business administration-oriented,

the proposed program stresses the management of engineering technology through more grounding in mathematics, statistics, general education, and technical writing skills and knowledge bases. The current proposal also permits a “seamless” transition without loss of credit from the associate degree to the baccalaureate degree for students from ABET-accredited (Accreditation Board for Engineering and Technology) engineering technology programs.

The program will be offered in cooperation with five technical colleges in the Upstate and Rock Hill regions of the state. The program will serve a commuting population which, in the main, is anticipated to be part-time, working adults. However, the program will be offered for full-time and part-time students at both the University Center campus in Greenville and at the Spartanburg home campus of USC-Upstate. This will be accomplished in part through delivery of courses by asynchronous distance education coursework and “blended” coursework (i.e., a blending of on-site and on-line methods of delivery.) Courses requiring specialized engineering technology equipment will be held in the laboratories at Greenville Technical College, initially. As viable cohorts might develop at these other venues, laboratories will be held there, too.

Although the program is principally intended for persons with an associate’s degree in engineering technology who wish to become managers, the proposal mentions that it is also open to students with an ABET-approved associate’s degree in surveying. In discussions with staff, USC-Upstate administrators have confirmed that, on an individual student basis, the program may well be able to be used by graduates of any other associate degree program subject to accreditation by ABET (Accreditation Board for Engineering and Technology.)

If approved, the proposed program itself will also seek accreditation by ABET, as a similar program at Western Michigan University (i.e., the Bachelor of Science in Engineering Management) has already done. Funds have been designated for the accreditation process. Accreditation for the USC-Upstate proposed program is anticipated within the first five years of the program’s implementation.

A total of 124 credit hours is required for completion of the degree program. Of these, a limit of 76 credit hours can be transferred into USC-Upstate from a technical college. Upper-division requirements for the degree total 67 credit hours, including 24 general education and elective hours; and 43 credits in engineering technology management, professional and technical writing, and business administration.

Total new faculty serving in the program will begin at one(.75 FTE) in FY 2007-08 and will rise to 3 (2.25 FTE) by the fifth year of the program.

Enrollment in the proposed program is estimated to begin at 16 headcount students (9.5 FTE) in FY 2006-2007 and increase to 65 headcount students (45 FTE) in FY 2010-

2011 and thereafter. Estimates are based on the assumption that all students in the program will be new to the institution, as well.

Existing classroom space is adequate at the University Center in Greenville and at the home campus of USC-Upstate. As mentioned above, the program will utilize the laboratory space for the laboratories in engineering technology at Greenville Technical College, as well as at other technical colleges when significant numbers of students might warrant it.

The proposal indicates that the library holdings are sufficient for ABET accreditation of the program, but the institution plans to strengthen the program further by additional library acquisitions. Electronic holdings through PASCAL are important to the core of journals available. Costs by category during the first five years of the program's implementation include library holdings (\$18,000); supplies/materials (\$12,000); faculty (\$630,000); facilities (\$17,000); and accreditation processes (\$9,506). These estimated new costs total \$686,506 over the first five years of the program's operation.

Shown below are the estimated Mission Resource Requirement (MRR) costs to the state of the proposed program for its first five years of implementation. 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
2006-07	\$154,954	\$0	<b>\$154,954</b>	N/A	\$74,989	<b>\$74,989</b>
2007-08	\$290,538	\$0	<b>\$290,538</b>	\$68,324	\$140,326	<b>\$208,650</b>
2008-09	\$548,794	\$0	<b>\$548,794</b>	\$128,262	\$265,804	<b>\$394,067</b>
2009-10	\$634,879	\$0	<b>\$634,879</b>	\$241,861	\$306,639	<b>\$548,500</b>
2010-11	\$742,486	\$0	<b>\$742,486</b>	\$279,895	\$359,355	<b>\$639,250</b>

These data demonstrate that if the new program meets its enrollment projections and contains costs as they are shown in the proposal, it will not generate revenues to match costs as estimated in the MRR in the first five years of its implementation. The institution has given assurances, however, that the necessary institutional resources exist for meeting the costs of the program.

In summary, the proposed program will provide an opportunity by which associate degree-educated students in engineering technology and related ABET-accredited programs may earn a baccalaureate degree for purposes of managing the human and other resources for engineering technology programs. By partnering with surrounding technical colleges, and collaborating and consulting with local business and industrial groups, USC-Upstate has designed the program to serve the Upstate region's growing industrial base with persons knowledgeable and skilled to handle these needs.

### **Recommendation**

The Committee on Academic Affairs and Licensing recommends that the Commission approve USC-Upstate's proposed program leading to the Bachelor of Science in Engineering Technology Management at the Spartanburg campus and the University Center in Greenville, to be implemented in Fall 2006, provided that no "unique cost" or special state funding be required or requested.