Program Modification Proposal
Bachelor of Science in Industrial Education, Addition of Industrial Technology Option
South Carolina State University

Summary

South Carolina State University (SCSU) requests approval to modify the program leading to the Bachelor of Science in Industrial Education by adding the Industrial Technology Option. The proposed program modification is to be offered through traditional instruction. **However, it should be noted that this option in the program has been offered by SCSU since 1998, but the University never submitted it for review through the Commission's approval process.** The Commission was made aware of its existence during the early stages of the implementation of Transfer Check on the South Carolina Transfer and Articulation Center (SC TRAC). As part of the implementation of Transfer Check, the Commission compared the degree programs reported by the institutions to SC TRAC to the Commission's *Inventory of Approved Programs*. This comparison revealed several discrepancies, the most notable of which was that Industrial Technology appeared to be a stand-alone program operating without Commission approval. Subsequent discussions between CHE staff and University officials beginning in Summer 2013 revealed that the program was not a stand-alone program, but an option of the Industrial Education program. CHE staff then requested that a program modification proposal be submitted for the program. University representatives informed CHE staff that there were some issues with the program that needed to be resolved before submitting the proposal. The final proposal modification was submitted to the Commission January 5, 2015. Staff also requested from SCSU an explanation as to why the program was not submitted for review in 1998.

The following chart outlines the stages for approval of the proposal; the Committee on Academic Affairs and Licensing (CAAL) voted to recommend approval of the proposal. The full program modification proposal is attached.

Stages of Consideration	Date	Comments
Program Proposal Received	1/5/15	Not Applicable
ACAP Consideration	2/12/15	University representatives discussed the history of the program and the need to submit the program modification proposal so that the program is officially listed in the Commission's *Inventory of Approved Programs*. ACAP members voted to approve the program modification.
Comments and suggestions from CHE staff sent to the institution	2/17/15	Staff requested that the proposal be revised to explain why the addition of the industrial technology option was never submitted to CHE for approval at the time of its original implementation in 1998. Staff also asked that the Assessment of Need section include more detailed data about the demand for the program, and that the justification for the modification include more detail about the reasoning for the addition of the industrial technology option. Staff

Stages of Consideration	Date	Comments
		also requested that the proposal provide national and state level employment projections as well as graduate placement rates, if such data is available; that the chart for curriculum changes include course titles for each course listed; and that the electives appropriate for the program be identified in the curriculum sheet provided. In addition, because the program has been in existence since 1998, staff made several edits to the proposal, including replacing the new enrollment chart with a chart showing enrollment and completion in the program for the past five years and modifying the Financial Support table to show actual costs and sources of financing for the program for the past five years and asked that the revised proposal provide this information.
Revised Program Proposal Received	2/23/2015	The revised proposal provides the additional information requested; however, SCSU representatives were unable to explain why the program was never originally submitted to CHE for review.
CAAL Consideration	5/7/2015	Dr. Learie Luke described the program and explained that the program has been offered since 1998, but was never formally submitted to the Commission for approval. Commissioners discussed the delay in submitting the program to the Commission and asked staff what processes are in place to learn whether institutions offer programs not approved by the Commission. Ms. Trena Houp responded that staff send a printed copy of the program inventory to every institution each year to review so that the Commission can be notified about programmatic changes. She also stated that currently there are not sufficient staff resources to review the offerings of each institution and compare them to the program inventory. She explained that this program discrepancy was discovered in the process of implementing new functionality on SC TRAC. Commissioner Munns asked how the program can meet productivity standards given the number of recent graduates. Dr. MaryAnn Janosik explained that currently the institutions must meet enrollment or completion standards and that the program meets the enrollment standards.

Recommendation

The Committee on Academic Affairs and Licensing recommends the Commission approve the program modification to add the Industrial Technology option to the program leading to the Bachelor of Science in Industrial Education.

Name of Institution
South Carolina State University

Name of Program (include concentrations, options, and tracks)
Industrial Education with an option in Industrial Technology

Program Designation

☐ Associate's Degree ☐ Master's Degree

☒ Bachelor's Degree: 4 Year ☐ Specialist

☐ Bachelor's Degree: 5 Year ☐ Doctoral Degree: Research/Scholarship (e.g.,
Ph.D. and DMA)

☐ Doctoral Degree: Professional Practice (e.g., Ed.D. D.N.P., J.D., Pharm.D., and
M.D.)

Does the program qualify for supplemental Palmetto Fellows and LIFE Scholarship awards?
☒ Yes

☐ No

Proposed Date of Implementation   CIP Code
Spring 2015   131309

Delivery Site(s)
South Carolina State University, Main Campus, Orangeburg, SC

Delivery Mode

☒ Traditional/face-to-face*   ☐ Distance Education
*select if less than 50% online   ☐ 100% online

☐ Blended (more than 50% online)

☐ Other distance education

Program Contact Information (name, title, telephone number, and email address)
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Institutional Approvals and Dates of Approval
Department Chairperson   July 1998
Dean of the College   July 1998
Vice President for Academic Affairs July 1998

Background Information

Provide a detailed description of the proposed modification, including its nature and purpose and centrality to institutional mission. (1500 characters)

This program modification proposal is to update the SC CHE *Inventory of Academic Programs* to reflect the Industrial Technology option in the undergraduate Industrial Education program currently offered at South Carolina State University (SC State). The option was approved in 1998 by officials at the University, but was never reported to CHE. The University takes responsibility for this. The senior officials in the Division of Academic Affairs who worked at the University in 1998 no longer work at the University; therefore, we cannot ascertain why the option was not reported to CHE. SC State joins the other public Universities that have had concentrations that were not in the CHE *Inventory of Academic Programs* in updating the *Inventory* to ensure these concentrations are properly listed at CHE. SC State is committed to following CHE policies and procedures.

As part of the Industrial Education program, the Industrial Technology option supports the mission of SC State by preparing highly skilled, competent, and socially aware graduates to enable them to work and live productively in a dynamic, global society. The Industrial Technology option eliminates 29 credits (including the 12-credit *Professional Clinical Experiences* course required for teachers) in the Industrial Education program and replaces those with 18 credits of coursework in the fields of Mechanical Engineering Technology, Civil Engineering Technology, and Industrial Engineering Technology because the students pursuing this option are being trained as industrial engineering technicians instead of classroom instructors. South Carolina State University is the only University in the State that offers Industrial Education and its technology option.

List the objectives of the modified program. (1500 characters)

The objectives of the Industrial Technology option are as follows:
1. Develop an understanding and acquire knowledge of the nature of technology.
2. Develop an understanding of technology and society.
3. Develop an understanding of design.
4. Develop abilities for a technological world.
5. Develop an understanding of the design world with practical applications.

Assessment of Need

Provide an assessment of the need for the program modification for the institution, the state, the region, and beyond, if applicable. (1500 characters)

The Bureau of Labor Statistics, Occupational Employment and Wages, May 2013, indicates that Industrial Engineering Technicians usually work under the direction of engineering staff. They are occupied in the following industries: Semiconductor and Other Electronic Component Manufacturing, Aerospace Product and Part Manufacturing, Motor Vehicle Parts Manufacturing, Navigational, Measuring, Electromedical, and Control Instruments Manufacturing, and Plastics Product Manufacturing. These technicians also work for government agencies, hospitals, public utility companies, pharmaceutical companies and industrial sales companies. The website www.indeed.com lists 2,411 manufacturing vacancies in South Carolina. Graduates in Industrial Technology are qualified for many of those jobs. Some of the job titles Industrial Technology graduates hold are project supervisor or manager, cost estimator, electronics technician, production manager, quality assurance technician, safety supervisor, site supervisor. For example, CMC Commercial Metals has an opening for a Mechanical Supervisor, and the UTI company has a vacancy for a Logistics Manager.

Graduates with the Industrial Technology option are very versatile. The program prepares students to become experts in the operation, maintenance, and management of technical systems used in the manufacturing process. Undergraduate studies offer a basic engineering and technical education and provide areas of specialization, while simultaneously allowing students to experience hands-on training lab experiences *(http://education-portal.com/industrial_technology_degree.html)*. One of our graduates works as an associate geodetic technician with the SC Department of Transportation. Two others work as a senior technician, and a Product Integration Engineering Manager at Boeing. Another works as a quality control technician at the SMI Steel Company. Others have gone on to graduate school, opened their own businesses, or work at the Federal Motor Carrier company, at Zeus, and at Schneider Electric. In the last five years the program has produced 21 graduates.

Will the proposed modification impact any existing programs and services at the institution?
☐ Yes
☒ No

If yes, explain. (1000 characters)

List of Similar Programs in South Carolina

Program Name	Institution	Similarities	Differences
None			

Description of the Program

Enrollment and Completion						
	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
Enrollment	24	21	18	18	18	19
Completion	8	2	4	5	3	1

Curriculum

The Industrial Technology Curriculum is attached.

Curriculum Changes
Note: Complete this table only if there are changes to the curriculum.

Courses Eliminated from Program		Courses Added to Program	
ED 206 - Integrating Language Arts and Literature Methods and Strategies	3.0 credits	**IT 305** – Human Relations in Industry	3.0 credits
EPSY 260 - Principles of Learning	3.0 credits	**TED 308** – Methods and Management for Teaching Industrial Subjects	3.0 credits
ED 308 - Principles of Learning Secondary School Materials and Methods	3.0 credits	Electives in Approved Area (Civil, Mechanical and Industrial Engineering Technology courses) 12.0 credits	
ED 350 – Education Seminar	1.0 credit	*Added 18.0 credit hours*	
ED 425 – Seminar II: Application and Assessment in Specialized Methods	3.0 credits		
RED 317 – Teaching Reading in Content Areas	3.0 credits		
ED 450 – Senior Education Seminar	3.0 credits		
ED 430 – Professional Clinical Experience I	12.0 credits		
Eliminated 29.0 credit hours			

Industrial Technology Possible Electives	
Civil Engineering Technology	
CET 203 – Principles and Practice of Geomatics	3.0 Credits
CET 205 – Computer-Aided Drafting	3.0 Credits
CET 305 – Principles of Surveying	3.0 Credits
CET 311 – Plane Surveying	3.0 Credits
CET 312 – Route Surveying	3.0 Credits
CET 315 – Construction	3.0 Credits
CET 318 – GPS & Control Surveying	3.0 Credits
CET 319 – Theory of Structures	3.0 Credits
CET 320 – Highway Engineering	3.0 Credits
CET 404 – Boundary Law	3.0 Credits
CET 413 – Structural Design I	3.0 Credits
Mechanical Engineering Technology	
MET 200 – Advanced CAD	3.0 Credits
MET 221 – Machine Tool Laboratory	3.0 Credits
MET 324 – Kinematics and Machine Design	3.0 Credits
MET 340 – Manufacturing Processes	3.0 Credits
MET 370 – Metrology	3.0 Credits
MET 427 – Numerically Controlled Machinery	3.0 Credits
MET 430 – Introduction to Air Pollution Control	3.0 Credits
Industrial Engineering Technology	
IET 252 – Industrial Statistics	3.0 Credits
IET 350 – Industrial Safety Engineering	3.0 Credits
IET 352 – Industrial Statistics II	3.0 Credits
IET 353 – Introduction to Manufacturing System Engineering	3.0 Credits
IET 354 – Motion and Time Study	3.0 Credits
IET 356 – Plant Layout and Material Handling	3.0 Credits
IET 450 – Project Planning and Control	3.0 Credits
IET 452 – Statistical Quality Control	3.0 Credits
IET 456 – Production and Inventory Control	3.0 Credits
IET 458 – Human Factors Technology	3.0 Credits

Faculty

Provide a brief explanation of any additional institutional changes in faculty and/or administrative assignment that may result from implementing the proposed program modification. (1000 characters)

No new faculty will be required since the Industrial Technology option is currently in existence and the goal of the modification is to update the CHE *Inventory of Academic Programs.*

Resources

Identify any new library/learning resources, new instructional equipment, and new facilities or modifications to existing facilities needed to support the modified program. (2000 characters)

No additional resources will be required since the Industrial Technology option is currently in existence and the goal of the modification is to update the CHE *Inventory of Academic Programs.*

Financial Support

Actual Costs by Year						
Category	**FY 2010-11**	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**Total**
Program Administration	13,989	13,989	12,087	12,087	12,329	50,492
Faculty and Staff Salaries	136,967	131,967	141,647	141,647	144,479	696,707
Graduate Assistants						
Equipment						
Facilities						
Supplies and Materials*	2,000	2,000	2,200	2,200	2,500	10,900
Library Resources						
Other*						
Total	138,967	147,956	155,934	155,934	159,308	758,099
Actual Sources of Financing						
Category	**FY 2010-11**	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**Total**
Tuition Funding	186,858	166,644	166,644	175968	191,672	887,786
Program-Specific Fees						
State Funding (i.e., Special State Appropriation)*						
Reallocation of Existing Funds*						
Federal Funding*						
Other Funding*						
Total						
Net Total (i.e., Sources of Financing Minus Actual Costs)	47,891	18,688	10,710	20,034	32,364	129,687

*Provide an explanation for these costs and sources of financing in the budget justification.

Budget Justification

Provide a brief explanation for the other new costs and any special sources of financing (state funding, reallocation of existing funds, federal funding, or other funding) identified in the Financial Support table. (1000 characters)

Note: Institutions need to complete this budget justification *only* if any other new costs, state funding, reallocation of existing funds, federal funding, or other funding are included in the Financial Support table.

Program Administration costs represent 25% of the salary for the Academic Program Coordinator. Faculty salaries are also listed including 75% of the salary of the Academic Program Coordinator.

The revenue figures relate to tuition. Fulltime students take 15 credit hours per semester. The tuition revenue reflects the enrollment figures in the "Enrollment and Completion" table above.

2010-11 with 21 students X $8,898 =$186,858
2011-12 with 18 students X $9,258 =$166,644
2012-13 with 18 students X $9,258 =$166,644
2013-14 with 18 students X $9,776 =$175,968
2014-15 with 19 students X $10,088 =$191,672
Total Tuition for 5 Years =$887,786

Evaluation and Assessment

Will any the proposed modification impact the way the program is evaluated and assessed?
    ☐ Yes
    ☒ No

If yes, explain. (1000 characters)

Will the proposed modification affect or result in program-specific accreditation?

☐ Yes

☒ No

If yes, explain; if the modification will result in the program seeking program-specific accreditation, provide the institution's plans to seek accreditation, including the expected timeline for accreditation. (500 characters)

Will the proposed modification affect or lead to licensure or certification?

☐ Yes

☒ No

If yes, explain how the program will prepare students for licensure or certification. (500 characters)

Teacher or School Professional Preparation Programs

Is the proposed modified program a teacher or school professional preparation program?

☐ Yes

☒ No

If yes, complete the following components.

Area of Certification

Attach a document addressing the South Carolina Department of Education Requirements and SPA or Other National Specialized and/or Professional Association Standards.