

## BACKGROUND

### CENTRAL STATE UNIVERSITY

#### Bachelor of Science in Environmental Engineering

##### EXECUTIVE SUMMARY/RECOMMENDATION

**This program clearly meets Regents' standards for baccalaureate degree programs. There were no serious concerns raised in the review.**

**Request:** Central State University requests approval for a Bachelor of Science in Environmental Engineering. The program will be housed in the College of Business and Industry, as part of the International Center for Water Resources Management.

**Program Purpose/Mission:** The Bachelor of Science in Environmental Engineering will prepare professionals for environmental engineering careers, and provide students the appropriate background for licensing as professional engineers. The proposed degree builds from the existing baccalaureate degrees in water resources management and manufacturing engineering. The development and implementation of the Bachelor of Science in Environmental Engineering degree is among the recommendations from the Speed to Scale collaborative planning effort of the Ohio Board of Regents and Central State University (2006-2007), and is part of the university's strategic academic and enrollment plan. Environmental engineering is an emerging growth area, and has been identified by the Department of Labor as one of the fastest growing fields in the U.S., with excellent prospects for environmental scientists, hydrologists and engineers. With the approval of the degree, Central State University would be the first undergraduate HBCU institution in the country to offer such a program.

**Enrollments:** Enrollment in the current Water Resources Management Program has been growing for the past five years from 30 – 58 students. The environmental engineering program will draw heavily from these existing enrollments as well as new student enrollments directly into the program. After five years, the proposed program will build to an enrollment of approximately 76 students (water resources management program transfers, new freshman, and community college transfers), from an initial cohort of 37 students. Central State University is pursuing funding from the National Science Foundation for scholarships to support student transfer from collaborating community colleges and targeted high schools. CSU already received funding (\$2.2 million) from NSF to support stem education, including the proposed engineering degree.

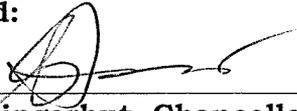
**Curriculum:** The curriculum of the proposed baccalaureate degree builds from existing science and engineering courses, including general engineering courses from the ABET accredited manufacturing engineering program (engineering drawing, statics, dynamics, strength materials, etc.) and applied hydraulics, wastewater treatment systems, soil and water pollution control, wastewater engineering and other appropriate courses. Students complete an internship

requirement and engage in a capstone project during the final year. A total of 141 semester hours are required for the new degree. CSU will be establishing an advisory council for the program. The council will include environmental engineering leaders from industry, federal agencies such as the EPA, Army Corps of Engineers and the Department of Agriculture, similar state agencies and academic institutions in Ohio and neighboring states.

**Licensure Requirements:** The Bachelor of Science in Environmental Engineering will prepare students to take the Fundamentals of Engineering Examination which is required for the Professional Engineer License. Central State University will also seek accreditation of the program from the Accreditation Board for Engineering and Technology (ABET). CSU already has an ABET accredited program in manufacturing engineering.

**Faculty/Resource Needs:** CSU has excellent laboratory facilities for water-related environmental engineering courses through the C.J. McLin Center and as a result of research grants, including grants awarded by NSF and from the National Nuclear Security Administration. An air quality engineering laboratory will be added to the existing facility. Library facilities fully meet the needs either through on-campus facilities or those available through Inter-Library Loan Program. In addition, NSF funding has provided support for additional reference texts in STEM areas and for upgrades to the library's network system for accessing OhioLINK. Some additional faculty will be required for the air quality component of the program and, in future years, for additional equipment. Support for the proposed degree program is factored into the financial model for the Speed-to-Scale initiative.

**Approved:**



**Eric D. Fingerhut, Chancellor  
Ohio Board of Regents**

7/23/07

**Date**