

AGENDA ITEM VI-D (6)

Consideration of adopting the Committee's recommendation relating to a request from the University of Houston for a Bachelor of Science degree with a major in Petroleum Engineering

RECOMMENDATION: Approval and authorization to implement a Bachelor of Science (BS) degree program in Petroleum Engineering.

BACKGROUND INFORMATION AND PROGRAM DESCRIPTION

The proposed baccalaureate program in petroleum engineering would complement existing programs. The University of Houston (UH) currently has established baccalaureate programs in biomedical engineering, chemical engineering, civil engineering, electrical engineering, mechanical engineering, and industrial engineering. It also has a master's in petroleum engineering. The master's program has graduated 110 students in the last five years.

Students in the proposed program would complete up to 135 semester credit hours (SCHs) including 42 SCHs of core course; 65 SCH of required engineering, math, and science courses; and 28 SCH of prescribed electives in petroleum engineering, chemical engineering, and related courses.

NEED

Employment Opportunities The Texas Workforce Commission indicates a current and future need for petroleum engineers in the state and in the Gulf Coast region. Approximately 420 annual job openings are expected to be available in Texas through 2014. During the last five years, Texas public universities graduated an average of 126 baccalaureate-level and 114 master's-level petroleum engineers per year.

Projected Enrollment UH estimates 50 students during the first year of the program growing to 250 by the fifth year. The CB staff believe these estimates are realistic as the three existing baccalaureate programs in the state enroll approximately 1,100 students.

Plan to Recruit Underrepresented Students UH has a number of programs designed to recruit and retain underrepresented students into STEM fields. UH Step Forward is a program where mentors work directly with classroom teachers to help high school students with math, science, robotics, and pre-engineering projects. The Mentoring and Enrichment Seminar in Engineering Training program is a one-

week residential program (two camps each summer) for underrepresented groups who are still in the K-12 system. The program is designed to increase the pipeline of engineering degree candidates. The Girls Reaching and Demonstrating Excellence program is designed to help female students make an informed choice about pursuing an engineering major and to increase the number of females in engineering careers.

Existing State Programs

Baccalaureate programs in petroleum engineering exist at Texas A&M University, Texas Tech University, and The University of Texas at Austin. The closest existing program to UH is located 100 miles away in College Station.

QUALITY AND RESOURCES

Faculty

UH currently has five core faculty members who would support the program initially and plans to hire two new faculty members in the first year and two more in the second year. Four support faculty from the related disciplines of mechanical, industrial, civil, and electrical engineering would also teach courses in the program.

Other Personnel

Other personnel planned for the program include a program director, 15 teaching assistants, a program administrator, an academic advisor, and financial/clerical support.

Facilities and Equipment

UH has existing facilities, including laboratory space that supports existing engineering and science programs, that would be available to the new program. In addition, UH plans to build a petroleum fluids lab, a general petroleum lab, and a drilling and completion lab (\$2,000,000).

Library, Supplies, Materials

UH has adequate library resources to support the proposed program.

Accreditation

The program would undergo accreditation review by ABET (the national accrediting body for engineering and technology programs) once it has graduated its first cohort.

FIVE-YEAR COSTS		SOURCES OF FUNDING	
Personnel ¹	\$5,116,000	Reallocated Funds	\$2,627,000
Facilities and Equipment	\$2,000,000	Anticipated New Formula Funding	\$1,202,113
Library, Supplies, Materials	\$275,000	Special Item Funding	\$0
Other ²	\$1,115,400	Other	
		Tuition and fees	\$3,483,000
		Private donations	\$1,600,000
Est. 5-Year Costs	\$8,506,400	Est. 5-Year Revenues	\$8,912,113

The Chief Executive Officer of the institution has certified that the institution will have funds sufficient to support the proposed program and that the new programs will not reduce the effectiveness or quality of existing programs at the institution.

Estimated formula funding generated by the institution in years three through five of the proposed program would total \$1,202,113.

¹ Includes program director and new faculty.

² Includes all non-faculty personnel, including teaching assistants and administrative support.