

MINUTES
ACADEMIC AFFAIRS COMMITTEE
UNIVERSITY OF SOUTHERN INDIANA
BOARD OF TRUSTEES

September 3, 2015

The Academic Affairs Committee of the University of Southern Indiana Board of Trustees met on Thursday, September 3, 2015, in the University Center on campus. Present were Committee Chair Ira G. Boots and Trustees John M. Dunn and Jeffrey L. Knight. Also in attendance were Provost Ronald S. Rochon and Vice President of Enrollment Management Andrew W. Wright.

Committee Chair Boots called the meeting to order at 9 a.m. and turned the meeting over to Provost Rochon for an introduction of the report.

1. REPORT ON DEGREEWORKS

Ms. Sandy Frank, registrar, discussed the University's online, comprehensive academic advising, program planning, and degree audit system in a presentation entitled, "DegreeWorks: Helping Students Persist, Progress, and Graduate." Ms. Frank began the discussion by explaining the degree audit reporting system, (DARS), which was used prior to DegreeWorks. DARS, implemented in 1994, was very difficult to read and was not user friendly. Ms. Frank showed the committee a sample of a DARS screen.

In 2013, legislation was passed requiring all public universities to map out four-year plans for degree completion. In addition, the Indiana Commission for Higher Education started promoting 15-to-Finish, a campaign emphasizing the importance of students completing at least 15 credit hours per semester in order to stay on track to graduate on time. Additionally, the University of Southern Indiana (USI) implemented Core 39, new general education requirements.

DegreeWorks gives students 24/7 access to real-time degree audits from any location. The degree audit combines the requirements for the student's declared major/minor and the coursework the student has transferred to the University of Southern Indiana plus the coursework completed at USI to clearly identify which requirements have been met, are in progress, or are unmet. This program also allows students who are considering changing or adding a major to perform a "what-if" degree audit, which allows students to plan or map a semester-by-semester list of courses to complete in order to graduate.

Coming soon to DegreeWorks is Transfer Equivalency Self-Service (TESS) which is an online tool for prospective transfer students to learn how individual transfer courses will equate to USI courses and how accepted work will apply to an intended major. TESS will aid in transfer recruitment by meeting transfer students expectations and making USI more competitive with other institutions that have TESS or other similar services.

DegreeWorks aids in retention and graduation by: 1) providing students a clear path to graduation; 2) requiring students to consult with advisors before changing courses on the plan/map; 3) providing students 24/7 access to real-time degree audits from any location; 4) displaying how transfer courses meet degree requirements; 5) allowing students to register for classes from their plan/map (coming next year); 6) allowing advisors more time to advise; 7) assisting advisors to identify 'off-track' students earlier; 8) providing advisors the ability to add notes to the degree audit; and 9) aiding academic departments with predictable course scheduling.

Training sessions for DegreeWorks have been held for faculty, advisors, and staff. Students learn about DegreeWorks in the new freshman seminar, UNIV 101, which is required of all new, first-time students. In addition, UNIV 101 students develop their map/plan and meet with an advisor to review and approve the map/plan.

2. APPROVAL OF NEW DEGREE PROGRAM: BACHELOR OF SCIENCE IN MANUFACTURING ENGINEERING

The Pott College of Science, Engineering, and Education proposed to offer a Bachelor of Science in Manufacturing Engineering degree. A complete abstract describing the program is in Attachment A. The implementation date is fall 2016.

The Pott College of Science, Engineering, and Education plans to offer the Bachelor of Science in Manufacturing Engineering on campus only. This program is a logical extension and fit for the current Bachelor of Science in Engineering program offered since 2002 by the Department of Engineering. The program will allow University of Southern Indiana engineering students to specialize in manufacturing engineering. In addition, this proposed program directly supports the University's mission by enabling students to engage in learning, to advance in education and knowledge, and to enhance civic and cultural awareness. Through the program, students will develop the knowledge, skills, attitudes, and critical thinking necessary to become successful manufacturing engineers. This program will respond to Indiana's need for a manufacturing engineering program and will be only one of approximately 19 manufacturing engineering programs in the United States and the only program in Indiana.

Reaching Higher, Achieving More's goal of a "workforce-aligned" higher education system will be addressed by the proposed Bachelor of Science in Manufacturing Engineering degree program. The goal of this proposed program is to deliver an educational program of study that prepares graduates who are fully qualified for entry-level positions in the professional sector of the manufacturing engineering career field, whether private industry, consulting, or governmental agencies. The program graduates will be capable of completing the requirements for registration as professional engineers in Indiana and other states. Obtaining a professional degree results in an increase of \$510 in median weekly salary over obtaining a bachelor's degree alone, while also having a three percent lower unemployment rate (*Reaching Higher 6*). Additionally, the proposed program will enhance Indiana's economic competitiveness by helping to produce a higher-trained workforce with greater spending power. Secondly, this program also will address the "mission-driven" goal of *Reaching Higher, Achieving More* by implementing Indiana's first bachelor's degree in manufacturing engineering and providing students in southwest Indiana with an opportunity to obtain a discipline specific engineering degree.

Dr. Zane Mitchell, chair of the Department of Engineering, informed the committee that one new course needs to be developed for the Bachelor of Science in Manufacturing Engineering program.

The proposed program is comprised of 128 credit hours for calculus-ready students. It is recommended by the dean of the Pott College of Science, Engineering, and Education and has been approved by the University Curriculum Committee, the Faculty Senate, the Academic Planning Council, the provost, and the president.

The committee approved the recommendation to the Board of Trustees to approve the degree program in Attachment A.

3. APPROVAL OF NEW DEGREE PROGRAM: BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

The Pott College of Science, Engineering, and Education proposed to offer a Bachelor of Science in Mechanical Engineering (BSME) degree. A complete abstract describing the program is in Attachment B. The implementation date is fall 2016.

The Pott College of Science, Engineering, and Education plans to offer the Bachelor of Science in Mechanical Engineering on campus only. Since USI began offering the Bachelor of Science in Engineering program, there has been a growing demand from engineering students and prospective engineering students for a named degree in mechanical engineering; and employers are often looking for graduates with a Bachelor of Science in Mechanical Engineering. The addition of this proposed program would ensure students complete a rigorous curriculum including mechanical science and engineering design courses, and provide graduates with the formal recognition of this accomplishment on a diploma and transcript. A move to this degree program will be consistent with both the vision statement, "shaping the future through learning and innovation," and the mission statement, "USI is an engaged learning community advancing education and knowledge, enhancing civic and cultural awareness, and fostering partnerships through comprehensive outreach programs. We prepare individuals to live wisely in a diverse and global community." Because a Bachelor of Science in Mechanical

Engineering is universally recognized as a standard engineering degree, such a degree at the University of Southern Indiana will be consistent with “advancing education” and also better prepare our students for the “global community,” where such a degree is highly regarded.

Dr. Zane Mitchell, chair of the Department of Engineering, informed the Committee that no new courses were needed for the Bachelor of Science in Mechanical Engineering program. He said the current Bachelor of Science in Engineering is heavy in the mechanical engineering courses.

The proposed program is comprised of 128 credit hours for calculus-ready students. It is recommended by the dean of the Pott College of Science, Engineering, and Education and has been approved by the University Curriculum Committee, the Faculty Senate, the Academic Planning Council, the provost, and the president.

The committee approved the recommendation to the Board of Trustees to approve the degree program in Attachment B.

There being no further business, the meeting was adjourned at 9:40 a.m.

ABSTRACT

Bachelor of Science in Manufacturing Engineering To be offered on-campus by the University of Southern Indiana, Evansville, Indiana

Consistency with Institution's Mission:

The proposed Bachelor of Science in Manufacturing Engineering program directly supports the University of Southern Indiana's mission by enabling students to engage in learning, advance in education and knowledge, and enhance civic and cultural awareness. Through the program, students will develop the knowledge, skills, attitudes, and critical thinking necessary to become successful manufacturing engineers. This program will respond to Indiana's need for a manufacturing engineering degree program.

Relation to Institution's Strategic and/or Academic Plan:

The proposed Bachelor of Science in Manufacturing Engineering degree program supports the strategic goals of the University's strategic plan to enhance experiential learning, increase the graduation rate, and increase diversity. These goals are addressed below:

Enhance Experiential Learning

The Bachelor of Science in Manufacturing Engineering degree program offers students hands-on experiences within each project and laboratory class, opportunities to participate in co-operative education and internships, and student organizations that participate in national engineering competitions.

Increased Graduation Rate

The manufacturing engineering degree program will help the University further its goal to improve recruitment and retention because it will be a discipline specific engineering degree that is better understood and known than the general engineering program. In addition, the program will be only one of approximately 19 manufacturing engineering programs in the United States and the only program in Indiana.

Increased Diversity

According to American Society of Engineering Education Publication "Engineering by the Numbers," 29.1 percent of graduates in manufacturing/industrial/systems engineering programs are women (Yoder, 2013). The addition of the Bachelor of Science in Manufacturing Engineering degree program will increase the University of Southern Indiana's number of female graduates in a STEM field.

Curriculum:

The proposed program is comprised of 128 credit hours for calculus-ready students.

Employment Possibilities:

A search on Engineerjobs.com shows that 8,293 jobs available in the United States are categorized as manufacturing engineering (as of August 6, 2015). Approximately 25 percent of those jobs are located in Indiana or its neighboring states. Within Indiana, Illinois, and Kentucky are 869 of those jobs, and in Indiana alone, there are currently 390 manufacturing engineering jobs available.

In addition, the Bureau of Labor Statistics indicates a 4.5 percent growth in manufacturing engineering from 2012 to 2022. While overall growth is expected to be 4.5 percent, there are industries that have growth as high as 39.5 percent. Indiana's Department of Workforce Development website projects that growth will be 6.5 percent for the state.

Lastly, a study by the Congressional Research Service, "The U.S. Science and Engineering Workforce: Recent, Current, and Projected Employment, Wages, and Unemployment," dated February 19, 2014, estimates the U.S. annual average number of job openings (job growth plus net replacements) for industrial (includes manufacturing) engineers will be 7,540 between 2012 and 2022.

ABSTRACT

Bachelor of Science in Mechanical Engineering

To be offered on-campus by the University of Southern Indiana, Evansville, Indiana

Consistency with Institution's Mission:

A move to the Bachelor of Science in Mechanical Engineering degree program will be consistent with both the vision statement, "shaping the future through learning and innovation," and the mission statement, "USI is an engaged learning community advancing education and knowledge, enhancing civic and cultural awareness, and fostering partnerships through comprehensive outreach programs. We prepare individuals to live wisely in a diverse and global community." Because a Bachelor of Science in Mechanical Engineering is universally recognized as a standard engineering degree, such a degree at the University of Southern Indiana will be consistent with advancing education and also better prepare our students for the global community, where such a degree is highly regarded.

Relation to Institution's Strategic and/or Academic Plan:

The proposed Bachelor of Science in Mechanical Engineering program supports the strategic goals of the University's strategic plan to provide leadership to Indiana and the region and to enhance experiential learning opportunities. These goals are addressed below:

Provide Leadership to Indiana and the Region

One of the key strategies supporting this goal is to "elevate our visibility to a level more appropriate to the University's accomplishments and impact on higher education and on the economy." The Bachelor of Science in Mechanical Engineering is the most common engineering degree in the United States. Thus, having the institution offer a Bachelor of Science in Mechanical Engineering degree program will noticeably elevate our visibility commensurate with the accomplishments of our graduates successfully completing such a degree.

Enhance Experiential Learning Opportunities

A key strategy supporting this goal is to increase internships and co-operatives. It is anticipated that internships and co-operatives will be more readily available to University of Southern Indiana students pursuing the familiar Bachelor of Science in Mechanical Engineering degree. Active student chapters of The American Society of Mechanical Engineers (ASME) and the Society of Automotive Engineers (SAE) are already in place at the University and provide numerous experiential learning opportunities through, for example, the "Human Powered Vehicle" and "Baja SAE" competitions. Experiential learning is built into the proposed program's curriculum in the sense that many of the required courses will have a hands-on-laboratory. Further, one of the new required courses in the curriculum will be a course in manufacturing. This course will give our students the opportunity to use much of the cutting edge equipment in the new Applied Engineering Center, thus increasing their experiential learning.

Curriculum:

The proposed program is comprised of 128 credit hours for calculus-ready students.

Employment Possibilities:

The Bureau of Labor and Statistics indicates a five percent growth in mechanical engineering positions nationally. This translates to over 11,000 jobs in a ten-year span from 2012 to 2022. Indiana is poised to capture many of these jobs. Indiana has the seventh highest availability of mechanical engineering jobs in the United States. These jobs range from manufacturing and design of automotive and aerospace parts to scientific research and development services. Indiana also has the third highest percentage of engineering positions for every 1,000 jobs available. Lastly, the demand for mechanical engineers in this region of Indiana (EGR11) is growing at over double the rate when compared to the state of Indiana as a whole.