MINUTES

ACADEMIC AFFAIRS COMMITTEE

UNIVERSITY OF SOUTHERN INDIANA
BOARD OF TRUSTEES

November 5, 2015

The Academic Affairs Committee of the University of Southern Indiana Board of Trustees met on Thursday, November 5, 2015, in the University Center on campus. Present were Committee Chair Ira G. Boots and Trustees John M. Dunn, Kenneth L. Sendelweck '76, and Ted C. Ziemer, Jr. Also in attendance were Provost Ronald S. Rochon and Vice President for Enrollment Management Andrew W. Wright.

Committee Chair Boots called the meeting to order at 1 p.m. and turned the meeting over to Provost Rochon for an introduction of the report.

1. REPORT ON INNOVATION IN THE I-69 CORRIDOR

Ms. Daniela Vidal, director of the Center for Applied Research/Economic Development, and Michael Thissen, innovation corridor manager, gave a presentation entitled, "Inducing Innovation in the I-69 Corridor."

The Center for Applied Research/Economic Development sought opportunity for growth and innovation along the I-69 Corridor for a variety of reasons: 1) an eight-year relationship between the University of Southern Indiana and Naval Surface Warfare Center (NSWC) Crane Division; 2) two certified technology parks at each end of the I-69 Corridor – Westgate and Innovation Pointe; 3) new terrain interstate – I-69; 4) increasing need for Science, Technology, Engineering, and Math (STEM) workers; and 5) strong manufacturing foundation for research & development presence.

To begin the inducing innovation process, a leadership team was convened (phase I) made up of representatives from three areas: business, civic, and academia. A business case (phase II) that stated, "We are growing, but at a slower pace than the national indicators. We must address this before the gaps widen exponentially to a point of no return." was developed. This I-69 Corridor area had an innovation score of 81.6 points, 20 points below the innovation hub of 100 points. In addition, the findings reported that the area had a large technical workforce; clusters of identified and demonstrable areas of technologies that have strengths and concentration of employment, investments, and know how; business churn; job growth; diversification of industry; migration out of the area by youth between the ages of 22 and 44 years of age; educational attainment; venture capital and intellectual property; broadband; and a population decline. With these factors in mind, taskforces (phase III) to determine the focus, were formed. They were: brainpower; entrepreneurship and innovation networks; quality, connected places; branding experiences; and civic collaboration. Through these taskforces, champions were determined and initiatives for each were created.

The I-69 Innovation Corridor has made an impact on the region. Some examples of the impact include: 23 counties led a regional team to apply for Manufacturing Community designation and developed a "Network for Sustainable & Distributed Manufacturing" strategy; seven universities convened a consortium with all institutions of higher education in the bi-state region to address workforce needs; over 300 participants are involved in the I-69 network of key regional leaders; 14 members are on I-69 Mayor's Roundtable; and an $80,000 grant was awarded to fund the I-69 Innovation Corridor.

In conclusion, the 2012 Regional Innovation Index was at 81.6 as noted above. In 2015, the Regional Innovation Index is at 86.3. The next step is Innovation Index 2.0.

2. REVIEW OF THE ACADEMIC PROGRAM DEVELOPMENT PLAN

Mr. Boots called on Provost Rochon, who referred the Trustees to the Academic Program Development Plan in Attachment A. Dr. Rochon reported the plan is developed and reviewed regularly by the Academic Planning

Council. At the October 26, 2015 Academic Planning Council meeting, a Baccalaureate degree in Health Informatics was added to the 2017-2019 biennium of the Academic Program Development Plan. The Master degree in Health Informatics was moved from the 2015-2017 biennium to the 2017-2019 biennium. In addition, the Educational Doctorate was added for the 2015-2017 biennium.

Provost Rochon informed the committee of two national experts, who visited the University of Southern Indiana on November 2, 2015, to discuss research and best practices concerning the development of a Doctor of Education (Ed.D.) program. The two University guests were Dr. Paul Theobald, dean of the School of Education and Exercise Science at Buena Vista University; and Dr. Gwendolyn Webb-Hasan, associate professor of Education Administration and Human Resource Development at Texas A&M University.

3. APPROVAL OF NEW DEGREE PROGRAM: BACHELOR OF ARTS/BACHELOR OF SCIENCE IN PHYSICS

The Pott College of Science, Engineering, and Education proposed to offer a Bachelor of Arts/Bachelor of Science in Physics 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 Arts/Bachelor of Science in Physics on campus with some core curriculum courses available via online delivery. A major component of the strategic plan of the University of Southern Indiana is to "provide leadership to Indiana and the region." Consistent with this strategy, the Pott College of Science, Engineering and Education has made its vision "to be a leader in undergraduate science, technology, engineering, and mathematics (STEM) education." With strong programs in biology, chemistry, geology, math, and engineering, it is the plan for the University to continue its leadership in the sciences with the addition of the Bachelor of Arts/Bachelor of Science in Physics degree. The absence of this degree program in the most basic of the sciences limits the University's ability to recruit and retain future scientists and teachers and compromises the University's ability to fulfill the vision as a STEM leader in southwestern Indiana. Currently the University's headcount for biophysics and physics teaching majors is low. With the implementation of the Bachelor of Arts/Bachelor of Science in Physics, the University will be able to increase the enrollment numbers without the usual added cost of a new degree program.

In its strategic plan, *Reaching Higher, Achieving More*, the Indiana Commission for Higher Education has charged the higher education community to provide programs that are student centered. The University of Southern Indiana proposes a physics degree that enables students to take multiple paths to success after graduation. This Bachelor of Arts/Bachelor of Science in Physics degree will provide both alignment with the workforce, as well as quality training for post baccalaureate studies. The University of Southern Indiana will be the only public institution in the Southwest Indiana region to offer a Bachelor of Arts/Bachelor of Science in Physics degree. While serving a three-state region in the Midwest, the advent of a Physics degree at USI will enable strong academically prepared students, who would otherwise leave the area for Illinois or Kentucky, to remain in Southwestern Indiana for their physics training. As part of the strategic plan in the Pott College of Science, Engineering, and Education, the College has provided STEM leadership in the region and will enhance the University's opportunities to serve the tri-state area with the addition of a physics degree program.

Dr. Scott Gordon, dean of the Pott College of Science, Engineering, and Education, informed the committee that no additional faculty are needed and resources are already secured for a new laboratory.

The proposed program is comprised of 120 credit hours. This program will consist of 48 hours of core courses in physics, math, chemistry, and engineering that are required of all four physics tracks. These tracks are traditional, teaching, applied, and computational. Each physics track will require an additional 24 to 25 credit hours. The program 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 1:37 p.m.

UNIVERSITY OF SOUTHERN INDIANA
New Program Development Plan

Revised by Academic Planning Council
October 26, 2015

Baccalaureate Degree	Master Degree	Doctorate Degree

2013-2015 Biennium

2015-2017 Biennium

Business/Engineering	Food and Nutrition (Dietetics)	Educational Doctorate (Ed.D.)
Civil Engineering	Supply Chain Logistics	
Electrical and Computer Engineering		
Industrial Engineering		
Manufacturing Engineering		
Mechanical Engineering		
Physics		
Statistics		

2017-2019 Biennium

Chemical and Biomedical Engineering	Environmental Science	Occupational Therapy
Geography	Health Informatics	Pharmacy
Health Informatics	Human Performance	
	Manufacturing Engineering (MSE)	

ABSTRACT
Bachelor of Arts/Bachelor of Science in Physics
To be offered on-campus by the University of Southern Indiana, Evansville, Indiana

Consistency with Institution's Mission:
The proposed Bachelor of Arts/Bachelor of Science in Physics 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.

Relation to Institution's Strategic and/or Academic Plan:
The Pott College of Science, Engineering, and Education plans to offer the Bachelor of Arts/Bachelor of Science in Physics on campus with some core curriculum courses available via online delivery. A major component of the strategic plan of the University of Southern Indiana is to "provide leadership to Indiana and the region." Consistent with this strategy, the Pott College of Science, Engineering, and Education has made its vision "to be a leader in undergraduate science, technology, engineering, and mathematics (STEM) education." With strong programs in biology, chemistry, geology, math, and engineering, it is the plan for the University to continue its leadership in the sciences with the addition of the Bachelor of Arts/Bachelor of Science in Physics degree. The absence of this degree program in the most basic of the sciences limits the University's ability to recruit and retain future scientists and teachers and compromises the University's ability to fulfill the vision as a STEM leader in southwestern Indiana. Currently the University's headcount for biophysics and physics teaching majors is low. With the institution of the Bachelor of Arts/Bachelor of Science in Physics, the University will be able to increase the enrollment numbers without the usual added cost of a new degree program.

Curriculum:
The proposed program is comprised of 120 credit hours. This program will consist of 48 hours of core courses in physics, math, chemistry, and engineering that are required of all four physics tracks. These tracks are traditional, teaching, applied, and computational. Each physics track will require an additional 24 to 25 credit hours. The program 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.

Employment Possibilities:
According to the American Institute of Physics (AIP), approximately 40 percent of graduates with physics degrees enter the workforce. For these graduates, one of the most pressing needs is for high school physics teachers. School districts consistently rank physics as the highest area of need among all academic disciplines with regard to teacher shortages. The US Bureau of Labor Statistics projects that nearly 53,000 new high school teachers will be added to the workforce between 2012 and 2022. The University of Southern Indiana receives multiple requests every year from tri-state high schools asking if any physics teaching majors are nearing degree completion. The University of Southern Indiana needs to help fill this void.

For those graduates who choose careers in industry, their breadth of training provides opportunities in a wide range of jobs. American Institute of Physics data show that most physics graduates enter STEM fields with the majority in engineering and computing jobs. Of the 26 percent of non-STEM employment, the highest paid positions were in finance or banking.

The AIP has thoroughly documented the wide array of employment opportunities enjoyed by physics graduates in the United States. The Indiana Department of Workforce Development (DWD) has provided the "Hoosier Hot 50 Jobs" report documenting the most in-demand professions currently in the state for the period from 2014 to 2016. Cross referencing the AIP and DWD data, 12 of the top 50 hot jobs in Indiana are careers for which graduates in physics currently hold employment nationally. Additionally, the DWD provides detailed employment data in Hoosiers by the Numbers. Here they provide long-term projections for a wide array of careers in Indiana for the time period 2010 to 2020. Jobs for which physics graduates are qualified are many and most hold the opportunity for double digit growth in Indiana.