

AGENDA

LONG-RANGE PLANNING COMMITTEE

UNIVERSITY OF SOUTHERN INDIANA BOARD OF TRUSTEES

September 6, 2007

1. APPROVAL OF NEW DEGREE PROGRAM: BACHELOR OF SCIENCE IN ADVANCED MANUFACTURING

The Pott College of Science and Engineering proposes to offer a Bachelor of Science in Advanced Manufacturing (Attachment A). The implementation date is the spring semester, 2008.

The proposed program has two primary objectives: to provide skilled baccalaureate-degreed technologists for the advanced manufacturing industry; and to support regional business and industry in workforce development and training by providing professional development and certificate training opportunities.

The proposed program in Advanced Manufacturing evolved from Indiana Commission for Higher Education recommendations. On May 10, 2002, the Indiana Commission for Higher Education endorsed the agreement entitled *Purdue University and University of Southern Indiana Proposal for Delivery of Engineering Education Alternatives in Southwestern Indiana (April 28, 2002)*, which recommended the "consolidation of existing USI Engineering Technology offerings into a Bachelor of Science (B.S.) in Manufacturing Technology".

The program is recommended by the Dean of the Pott College of Science and Engineering and has been approved by the University Curriculum Committee, the Academic Planning Council, the Faculty Senate, and the President.

Approval of a recommendation to the Board of Trustees to approve the Bachelor of Science in Advanced Manufacturing is recommended.

2. APPROVAL OF NEW DEGREE PROGRAM: DOCTOR OF NURSING PRACTICE

The College of Nursing and Health Professions proposes to offer a Doctor of Nursing Practice (DNP), described in Attachment B. The implementation date is the fall semester, 2008.

The proposed program will serve Masters of Science in Nursing (MSN) graduates who are currently practicing as nurse educators, nurse practitioners, or nurse administrators. The objective is to prepare experts in advanced nursing with emphasis on innovative and evidence-based practice. The expanded knowledge base from the sciences and nursing will enhance the DNP graduate's contribution to patient care.

Students entering the program must have completed an MSN degree to be eligible to enroll in the DNP program and may apply a maximum of 42 graduate credits toward the required 78 credit hours for the degree.

The 2007 President's Task Force on Workforce and Economic Development supported the need for clinical nursing and other health-related programs. The addition of the proposed program will support the education, social, and economic growth of southern Indiana by providing expert nurse clinicians, educators, and administrators.

A task force of nursing faculty from the College of Nursing and Health Professions proposed the program. It is recommended by the Dean of the College of Nursing and Health Professions and has been approved by the Graduate Council, the Academic Planning Council, and the President.

Approval of a recommendation to the Board of Trustees to approve the Doctor of Nursing Practice is recommended.

3. REPORT ON ADVANCED PATIENT SIMULATOR

A report will be presented on SimMan®, a portable and advanced patient simulator used for team training which provides realistic patient care scenarios.

ABSTRACT

Bachelor of Science in Advanced Manufacturing to be offered by the University of Southern Indiana

Objectives:

The proposed program in Advanced Manufacturing evolved from Indiana Commission for Higher Education recommendations. On May 10, 2002, the Indiana Commission for Higher Education endorsed the agreement entitled *Purdue University and University of Southern Indiana Proposal for Delivery of Engineering Education Alternatives in Southwestern Indiana (April 28, 2002)*. This agreement recommended the "consolidation of existing USI Engineering Technology offerings into a Bachelor of Science (B.S.) in Manufacturing Technology. The University of Southern Indiana has deleted the Engineering Technology programs from its curriculum and is now prepared to offer the Advanced Manufacturing Program. The Department of Engineering currently offers Bachelor of Science degrees in Engineering and Industrial Supervision.

The two primary objectives of this proposed action are: 1) to provide skilled baccalaureate-degreed technologists for the advanced manufacturing industry; and 2) to support regional business and industry in workforce development and training by providing professional development and certificate training opportunities.

Clientele to be Served:

The clientele to be served by the proposed program include both traditional and non-traditional students enrolled at the University of Southern Indiana as well as regional manufacturing employers and employees seeking additional professional and workforce development. The program is designed to allow well-prepared, full-time students to fulfill the degree requirements in four years. It also will allow fulfillment of degree requirements by individuals who may be under-prepared, who wish to avail themselves of cooperative work assignments, and who are unable to devote a full-time schedule to their academic pursuits. These individuals will be able to fulfill degree requirements in five years or more. Additionally, the program will provide an opportunity to the two-year Associate of Science graduate in a technical field who desires manufacturing positions that require a Bachelor of Science degree. Institutions that provide the two Associate of Science degrees include Ivy Tech State College; Henderson Community College of Henderson, Kentucky; and the Illinois Eastern Community College System, which includes Wabash Valley College and Southeastern Illinois College. There is a need for professional development and certification training of current employees at advanced manufacturing locations. The Bachelor of Science in Advanced Manufacturing will allow professional development opportunities and certification training for employers such as Alcoa, Whirlpool, Inc., Berry Plastics, PPG, Inc., and numerous smaller employers in the plastics industry.

Curriculum:

The Bachelor of Science in Advanced Manufacturing will be comprised of 127 semester hours in three major areas: the University of Southern Indiana University Core Curriculum (UCC), which is comprised of 50 semester hours; 8 additional semester hours of physical science and mathematics; and 69 hours of advanced manufacturing technology and engineering courses. The technology courses emphasize advanced manufacturing techniques in areas such as robotics; industrial control systems (programmable logic controllers); advanced manufacturing; work cell and systems design; and human factors design. Cooperative work assignments will be available to full-time students to allow further on-the-job training in advanced manufacturing.

Employment Opportunities:

Graduates of the proposed program will be prepared to take positions as skilled technologists in the advanced manufacturing sector. Ample employment opportunities presently exist and are expected to continue to exist in sufficient numbers to provide graduates with a wide variety of employment choices.

Proposed Advanced Manufacturing Curriculum

Freshman Year

Fall Semester			Spring Semester		
ENG 101	Rhetoric & Composition I	3	ENG 201	Rhetoric & Composition II	3
TECH 103	Materials & Manuf Processes	3	PHYS 175	General Physics I	4
MATH 118	College Algebra & Trigonometry	5	MATH 215	Survey of Calculus	3
TECH 121	CAD Fundamentals	3	CMST 101	Introduction to Public Speaking	3
ENGR 103	Principles of Problem Solving	3	CIS 151	Computer Applications for Business	
ENGR 101	Engineering Orientation	0	ENGR 104	and/or Applied Problem Solving	3
		<u>17</u>			<u>16</u>

Sophomore Year

Fall Semester			Spring Semester		
PHYS 176	General Physics II	4	ENGR 241	Digital Logic	3
TECH 261	Fundamentals of Instrumentation	2	ENG 210	Technical Writing	3
TECH 275	Safety in Manufacturing	3	CHEM 175	Survey of Chemical Concepts	4
TECH 211	Mechanics for Technology	4	TECH 212	Strength of Materials	3
TECH 331	Statistics in Manufacturing	3	TECH 272	Robotics	3
		<u>16</u>			<u>16</u>

Junior Year

Fall Semester			Spring Semester		
ENGR 382	SCADA Systems Design	3	ENGR 335	Engineering Economics	3
TECH 351	Thermodynamics & Heat Transfer	3	TECH 367	Advanced Manufacturing	3
TECH 385	Electrical Machines & Distribution	3	TECH 343	Servo and Non-servo Hydraulics	3
ENGR 362	Manufacturing	3	ECON	Economics Elective	3
	University Core	3	PED 186	Wellness/Fitness Appraisal	1
PED	PED Activities Course	1		University Core	3
		<u>16</u>			<u>16</u>

Senior Year

Fall Semester			Spring Semester		
TECH 4XX	Human Factors in Manufacturing	3	ENGR 482	Engineering Organization and Mngt	3
	Work cell & Production Systems				
TECH 401	Design	3	TECH 471	Senior Project	3
	University Core	3	TECH 411	Materials	3
	University Core	3		University Core	3
	University Core	3		University Core	3
		<u>15</u>			<u>15</u>

ABSTRACT

Doctor of Nursing Practice (DNP) to be offered by the University of Southern Indiana

Objectives:

Upon completion of this program, the DNP graduate will be able to:

- 1) Integrate nursing science with knowledge from ethics and the biophysical, psychosocial, analytical, educational, and organizational sciences as the basis for the highest level for nursing practice.
- 2) Develop and evaluate care delivery approaches that meet current and future needs of patient populations based upon scientific findings in nursing science, clinical sciences, and organizational, political, and economic sciences.
- 3) Use analytic methods to critique existing literature and other evidence to determine and implement the best evidence for practice.
- 4) Demonstrate leadership in the development and implementation of institutional, local, state, federal, and international health policy.
- 5) Advocate for patients and the nursing profession within government, business, education, and health care communities.
- 6) Lead inter-professional teams in the analysis of complex practice and organizational issues.
- 7) Analyze epidemiological, bio-statistical, environmental, and other scientific data related to individual, aggregate, and population health.
- 8) Demonstrate advanced level of judgment, systems thinking, and accountability in designing, teaching, delivering, and evaluating evidence-base care to improve patient and health care outcomes.

Clientele to be Served:

The DNP program will serve Masters of Science in Nursing (MSN) prepared nurses who are currently practicing as nurse educators, nurse practitioners, or nurse administrators. Future nurse practitioners (2015 implementation date) will be required to be prepared at the doctorate level.

Curriculum:

The DNP program will require 78 graduate credit hours and provide study concentrations in the areas of nurse educator, nurse practitioner, and nurse administrator. The student must have completed an MSN degree to be eligible to enroll in the DNP program and may apply a maximum of 42 graduate credits toward the required 78 credit hours required for the degree. The subject areas in the DNP courses include advanced scientific principles for nursing practice, organizational and systems leadership, education, informatics, health care policy, inter-professional collaboration, cultural competence, illness prevention and health promotion. The DNP program includes critical appraisal of nursing practice and will require documentation of practice hours in the study concentration within the DNP program. A unique feature of this program will be the hybrid use of advanced technology and the Internet with on-campus intensives for course delivery and student-faculty interaction.

Employment Opportunities:

There are current and increasing employment opportunities for doctoral-prepared nurses in the areas of education, clinical practice, and administration. The shortage of nursing faculty is critical and growing. State Board of Nursing faculty-to-student ratio mandates, expanding nursing enrollments, and retiring faculty all contribute to the critical faculty shortage. The changing health care environment will require additional nurse practitioners to respond to the demand for increased access to care. With Indiana's current effort to provide health care access to the underserved, the use of nurse practitioners will be a major strategy in providing these services. The shortage of nurse administrators has become critical with the increased complexity of health care and the retirement of many of the nurses currently holding administrative positions. Nurses with expertise in nursing management and leadership will be in great demand to fill administrative positions in health care organizations and in nursing education.

Proposed Doctor of Nursing Practice Curriculum

The Doctor of Nursing Practice (DNP) curriculum is built upon three distinct areas of graduate nursing and cognate content as determined by the American Association of Colleges of Nursing. The three content areas with the DNP courses are:

<u>Leadership and Organizational Systems Core Course</u>		<u>Credit Hours</u>
NURS 721	Organizational and Systems Leadership	4
NURS 724	Health Care Policy and Economics	4
NURS 725	Health Care Finance and Marketing	3
NURS 727	Nursing and Health Care Informatics	<u>3</u>
Total		14
<u>Evidence-Based Practice Core Courses</u>		
NURS 713	Theory and Practice	4
NURS 715	Analytical Methods for Population-Based Care	4
NURS 717	Cultural Diversity	<u>2</u>
Total		10
<u>Specialty Practice Courses</u>		
NURS 854	Critical Appraisal of Practice I	3
NURS 855	Critical Appraisal of Practice I	3
NURS 866	Capstone Project	1
NURS 867	Capstone Project	1
NURS 870	Capstone Project	1
NURS 880	Capstone Project	<u>3</u>
Total		12
Total Credit Hours		36