

COMMISSION FOR HIGHER EDUCATION

Friday, June 11, 2010

DECISION ITEM A-4:

Associate of Science in Nanotechnology To Be Offered by Ivy Tech Community College-South Bend at South Bend

Staff Recommendation

That the Commission for Higher Education approve the Associate of Science in Nanotechnology to be offered by Ivy Tech Community College-South Bend at South Bend, in accordance with the background discussion in this agenda item and the *Abstract*, May 28, 2010; and

That the Commission recommend no new state funds, in accordance with the supporting document, *New Academic Degree Program Proposal Summary*, May 28, 2010.

Background

Ivy Tech Community College was approached by the University of Notre Dame to develop the proposed A.S. in Nanotechnology – a new program for the College, as well as the state – as a result of research activities at the University. The Midwest Institute for Nanoelectronics Discovery (MIND), based at the University of Notre Dame, is one of four centers funded by the Nanoelectronics Research Initiative (NRI), which, in turn, is part of the Semiconductor Research Corporation – a non-profit, worldwide consortium funded by the microchip industry and supporting university-based research. Besides UND, seven other universities are involved in research conducted through MIND, including Purdue University.

UND/Ivy Tech collaboration in support of the program includes utilizing clean rooms and research laboratories at UND for several Ivy Tech nontechnology courses, professional development opportunities for College faculty, and summer research-related opportunities for Ivy Tech students.

The outlook for employment opportunities for technicians prepared for work in the nanotechnology industry is excellent. Locally, graduates are expected to find employment in companies working with MIND, as well as start-up companies based at UND's Innovation Park and the City of South Bend's Ignition Park.

The A.S. in Nanotechnology fully articulates with the B.S. in Engineering Technology at Purdue University North Central and has been designed to meet the accreditation standards of the Association of Technology, Management and Applied Engineering (ATMAE).

Supporting Documents

- (1) *Abstract - Associate of Science in Nanotechnology To Be Offered by Ivy Tech Community College-South Bend at South Bend, May 28, 2010*
- (2) *New Academic Degree Program Proposal Summary – A.S. in Nanotechnology, May 28, 2010*

Abstract

Associate of Science in Nanotechnology
To Be Offered by
Ivy Tech Community College-South Bend at South Bend

May 28, 2010

Objectives: To prepare students for a variety of careers in the emerging field of nanotechnology such as research or production technician, clean room operator or supervisor. This program addresses the need to produce skilled personnel who can collaborate with engineers, scientists, and other technicians to implement “nanoscale” production processes, and/or repair, maintain and calibrate equipment operated in a clean room environment.

Clientele to be Served: Individuals in the North Central Indiana communities who have earned a high school diploma or GED and will serve full- and part-time students with both day and evenings classes. It should attract individuals engaged in other aspects of the electronics, materials, or biotechnical industries who are looking to advance their current position with their current or new employer.

Curriculum: A total of 64-67 semester credit hours is required to complete the program, distributed as follows:

General Education (33-36 credit hours)

- Chemistry I (4-5)
- Fundamentals of Public Speaking (3)
- English Composition (3)
- Technical Writing (3)
- Life Skills Elective (1)
- College Algebra (3)
- Trigonometry with Analytic Geometry (3)
- Physics I (4)
- Elective Social Science/Humanities (3)
- Science/Technology Elective (3-4)
- Science/Technology Elective (3-4)

Technical Core (31 credit hours)

- Fundamentals of Nanotechnology I & II (6)
- Nanoelectronics (3)
- Introduction to Materials Characterization (3)
- Nanoscience – Specialized Areas (3)
- Nanomaterials (3)
- Nanoscience Manufacturing (3)
- Micro and Nano Fabrication (5)
- Thin Film Deposition (3)
- Nanoscience Internship (2)

Employment Possibilities: Graduates will be qualified to provide technical support in the manufacture of nanoelectronics, nanomaterials, and nanobiology products. Typical careers include lab assistant, research assistant, equipment technician, clean room technician, clean room operator, quality technician, technical supervisor, and other professional specialties.

NEW ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY

May 28, 2010

I. Prepared by Institution

Institution/Location: Ivy Tech Community College-South Bend at South Bend
 Program: A.S. in Nanotechnology

	Year 1 FY2010	Year 2 FY2011	Year 3 FY2012	Year 4 FY2013	Year 5 FY2014
Enrollment Projections (Headcount)					
Full-Time	16	28	42	50	60
Part-Time	8	14	28	30	40
Total	24	42	70	80	100
Enrollment Projections (FTE)					
Full-Time	16	28	42	50	60
Part-Time	4	7	13	14	19
Total	20	35	55	64	79
Degree Completions Projection	0	8	14	20	28
New State Funds Requested (Actual) *	-0-	-0-	-0-	-0-	-0-
New State Funds Requested (Increases) *	-0-	-0-	-0-	-0-	-0-

II. Prepared by CHE

New State Funds To Be Considered For Recommendation (Actual) *	-0-	-0-	-0-	-0-	-0-
New State Funds To Be Considered For Recommendation (Increases) *	-0-	-0-	-0-	-0-	-0-

CHE Code: 10-14
 Campus Code: 8423
 County: St. Joseph
 Degree Level: 03
 CIP Code: Federal – 151601; State – 151601

* Excludes new state dollars that may be provided through enrollment change funding.