

NEW UNITS OF INSTRUCTION AT PUBLIC COMMUNITY COLLEGES

Submitted for: Action.

Summary: This item requests approval of three new associate degree programs to be offered at two community colleges.

Action Requested: That the Illinois Board of Higher Education approves the following programs at the colleges indicated:

College of DuPage

- Associate in Applied Science in Biomedical Engineering Technology

Danville Area Community College

- Associate in Applied Science in Fire Science
- Associate in Applied Science in Wind Energy Technician

STATE OF ILLINOIS
BOARD OF HIGHER EDUCATION

NEW UNITS OF INSTRUCTION AT PUBLIC COMMUNITY COLLEGES

By statute, the Illinois Board of Higher Education is responsible for approving new associate degree programs proposed by public community colleges. The Board's approval criteria, defined in administrative rules, address relevance to college mission, academic control, faculty and staff, support services, financial resources, student demand, employer demand, curriculum, and congruence with IBHE policies and priorities. Before a recommendation for approval of an associate degree program is submitted to the IBHE for approval, staffs of the IBHE and the Illinois Community College Board (ICCB) review the proposal. Once agreement is reached on a proposal having met the approval criteria, a recommendation for approval is presented to each board.

College of DuPage
425 Fawell Boulevard
Glen Ellyn, Illinois 60137
President: Dr. Robert L. Breuder

Proposed Program Title in Region of Authorization: Associate in Applied Science in Biomedical Engineering Technology

Projected Enrollments: College of DuPage projects an enrollment of approximately ten full-time and eight part-time students the first year, increasing to 13 full-time and 11 part-time students by the third year.

Introduction, Curriculum, and Assessment of Student Learning Outcomes

College of DuPage is seeking approval to offer a 70 semester credit hour Associate in Applied Science (A.A.S.) degree program in Biomedical Engineering Technology. This program will prepare individuals for entry-level employment as biomedical equipment repair and maintenance technicians. The curriculum consists of 19 semester credit hours of general education coursework and 51 semester credit hours of career and technical education coursework. The career and technical component of the curriculum includes instruction in human anatomy and physiology, biomedical terminology, electricity and electronics fundamentals, digital fundamentals, introductory biomedical technology, introductory and intermediate circuits, electronic devices and applications, biomedical instrumentation technology, electronic instruments, measurements and controls, programmable logic devices, embedded systems and microcontroller programming, and biomedical technology applications. The program was developed according to guidelines for educational programs of the International Certification Commission for Clinical Engineering and Biomedical Technology (ICC) and will prepare graduates for optional ICC certification as a Biomedical Equipment Technician (BMET). Assessment of student learning objectives will be achieved through evaluation of a student project and a review of their educational portfolio by program faculty.

Labor Market Information

Labor market information provided by the College supports the interest in and the need for a degree-level training program in this field of study. According to the Illinois Department of Employment Security, employment of medical equipment repairers is expected to increase by 18.19 percent statewide through 2020. Locally, evidence of district and Chicago-metro area demand for new hires in the field is very supportive.

Resources: Faculty, Staff, etc.

The College indicates the program requires two existing full-time and two existing part-time faculty the first year. Qualified faculty possess a Master's degree in Engineering Technology, two years related occupational experience and two years teaching experience. The proposed program will share classroom, laboratory facilities, and some equipment and tools with the College's existing Electronics curricula. Equipment specific to biomedical technology will be purchased during the first year of the program. Costs to implement the program are estimated at \$29,823 the first year, with no new costs anticipated in years two and three. The proposed program will be supported through student tuition and fees.

Staff Conclusion. College of DuPage and its proposed program meet the criteria to implement the Board of Higher Education Act (110 ILCS 205) as set forth in 23 Ill. Adm. Code 1050.30 and the Illinois Board of Higher Education policies pertaining to assessment accreditation for licensure.

Danville Area Community College
2000 East Main Street
Danville, Illinois 61832
President: Dr. Alice Marie Jacobs

Proposed Program Title in Region of Authorization: Associate in Applied Science in Fire Science

Projected Enrollments: Danville Area Community College projects an enrollment of 15 full- and part-time students each year over the next three years.

Introduction, Curriculum, and Assessment of Student Learning Outcomes

Danville Area Community College is seeking permanent approval to offer a 64 semester credit hour Associate in Applied Science degree program in Fire Science and a related 35 semester credit hour Fire Science Specialist Certificate program. These programs were approved in October 2004 and have been in operation for a period of seven years. The certificate program will prepare students for Fire Fighter Level I certification through the Illinois State Fire Marshall. This curriculum consists of 35 semester credit hours of required career and technical coursework including emergency medical technology-basic (EMT-B) level training, techniques of fire fighting, fire prevention, fire management, tactics and strategies, fire apparatus, hazardous materials, and fire instruction. The degree curriculum builds on the certificate program to include 15 semester credit hours of general education requirements, and an additional 14 semester credit hours of career and technical education coursework. Additional career and technical coursework includes fire service laws and regulations, advanced fire management, roadway extrication, and Spanish for fire fighters. The degree program will prepare students for Fire Fighter Level II and Fire Officer Level I certifications through the Office of the Illinois State Fire Marshall (OSFM).

A number of changes within both curricula occurred in 2008, including re-sequencing of courses so that students could complete the EMT-Basic course and take the Illinois Department of Public Health certification prior to the start of their first semester of fire science courses. A course in hazardous materials awareness was dropped upon recommendation of the advisory committee because its content was being repeated in another course. Numerous other updates to course content have been made to maintain alignment with the OSFM's program accreditation in January 2009. Assessment of student learning objectives is achieved through a performance test administered and evaluated by certified fire instruction personnel.

Labor Market Information

Labor market information provided by the College continues to support the interest in and the need for formalized training in this field of study. According to the Illinois Department of Employment Security, growth in the employment of Fire Fighting and Prevention Workers is expected to increase by 7.77 percent statewide through 2020. Enrollment in the fire science programs has remained steady since the program's implementation in January 2005, although students must provide evidence of local employment with a fire service provider or have a sponsorship that will lead towards employment before enrolling. One hundred fifteen students have enrolled in a fire science course since 2005. Ten students have completed the degree and ten students have completed the certificate. Forty-three students have completed the requirements for Fire Fighter I and II certification. Twenty-one students have completed the requirements for Fire Officer I and Fire Instructor certification. The college anticipates an enrollment of 15 full- and part-time students each year over the next three years. The need for new hires due to new positions being created is about as fast as the average for all new occupational growth in Illinois through 2020, but the need to replace workers retiring from the workforce substantiates the need for continued training at all levels of fire service.

Resources: Faculty, Staff, etc.

Equipment and facilities are in place to adequately support the program. No new faculty will be required to maintain the program over the next three years. Qualified faculty will possess at least a bachelor's degree and Fire Instructor Certification. The program is supported fiscally through student tuition and fees.

Proposed Program Title in Region of Authorization: Associate in Applied Science in Wind Energy Technician

Projected Enrollments: Danville Area Community College projects an enrollment of 15 full- and part-time students each year over the next three years.

Introduction, Curriculum, and Assessment of Student Learning Outcomes

Danville Area Community College is also seeking permanent approval of their 67 credit hour Associate in Applied Science degree program in Wind Energy Technician. This program was granted temporary approval in March 2009 and has been in operation for a period of three years. The program prepares individuals for entry-level employment as technicians responsible for the maintenance, troubleshooting and repair of wind power generating turbines, and equipment and facilities, commonly known as wind farms. The curriculum includes 16 semester credit hours of required general education coursework and 51 semester credit hours of required career and technical education coursework. The career and technical component of the curriculum includes instruction in introductory wind energy, wind energy maintenance, wind

energy electronics and electricity, wind turbine materials and electro-mechanical equipment, programmable controllers, electrical, mechanical and hydraulics diagnosis and repair, digital electronics, pneumatics and controls, wind turbine troubleshooting, wind power delivery systems, and a seminar in topics related to wind energy generation. The College has constructed and maintains a 60 foot training tower on campus which offers students the opportunity for real world training on wind turbine equipment and facilities. Assessment of student learning objectives is achieved through an evaluation of the students' performance during a final demonstration exam.

Labor Market Information

Labor market information provided by the College continues to support formalized training in this field of study both within the College's district and throughout the state. Four years ago this program was developed in response to local industry's demonstrated support for such training. Since 2010, the downturn in the economy has slowed the building of new wind farms from four to one within the college's district, and therefore has had some effect on the need for new workers. Although locally there are still new and replacement job opportunities, many more jobs exist outside of the college's district. Statewide the growth of wind energy technology is expected to continue to increase, according to the Illinois Department of Commerce and Economic Opportunity. Program enrollment the first year was 48 full- and part-time students, 21 full- and part-time students the second year, and 20 full- and part-time students the third year. Enrollment for Fall 2012 is currently 15 full- and part-time students. Completion rates for students have been good with 55 percent completing after the second year and 75 percent completing after the third year. Placement of students upon completion has been 70 percent each year.

Resources: Faculty, Staff, etc.

Equipment and facilities are in place to adequately support the program. No new faculty will be required to maintain the program over the next three years. Qualified faculty will possess at least one year of related work experience with wind energy technology and an associate's degree in a related field. The program is supported fiscally through student tuition and fees.

Staff Conclusion. Danville Area Community College and its proposed programs meet the criteria to implement the Board of Higher Education Act (110 ILCS 205) as set forth in 23 Ill. Adm. Code 1050.30 and the Illinois Board of Higher Education policies pertaining to assessment accreditation for licensure.

The staff recommends adoption of the following resolutions:

The Illinois Board of Higher Education hereby grants authority to College of DuPage to offer the Associate in Applied Science (A.A.S.) in Biomedical Engineering Technology subject to the institution's implementation and maintenance of the conditions that were presented in its application and that form the basis upon which this authorization is granted.

The Illinois Board of Higher Education hereby grants authority to Danville Area Community College to offer the Associate in Applied Science (A.A.S.) in Fire Science and the Associate in Applied Science (A.A.S.) in Wind Energy Technician subject to the institution's implementation and maintenance of the conditions that were presented in its applications and that form the basis upon which these authorizations are granted.