HIGHER EDUCATION COORDINATING COMMISSION
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Salem, OR 97310
www.oregon.gov/HigherEd

Docket Item:

Community College Approval: Clackamas Community College, Associate of Applied Science Degree in Microelectronics Systems Technology, within 15.0612 – Industrial Technology/Technician.

Summary:

Clackamas Community College proposes a new Associate of Applied Science Degree in Microelectronics Systems Technology. Higher Education Coordinating Commission (HECC) staff completed a review of the proposed program. After analysis, HECC staff recommends approval of the degree as proposed.

Staff Recommendation:

The HECC recommends the adoption of the following resolution:
RESOLVED, that the Higher Education Coordinating Commission approve the following degree: AAS in Microelectronics Systems Technology.

Clackamas Community College seeks the Oregon Higher Education Coordinating Commission's approval to offer an instructional program leading to an Associate of Applied Science Degree in Microelectronics Systems Technology.

Program Summary

This program prepares students for entry into the microelectronics and semiconductor industries. Course work focuses on wafer manufacturing, integrated circuit fabrication, component manufacturing, microelectronic assembly and equipment maintenance. Specific skill areas include: silicon materials fabrication, silicon manufacturing, semiconductor processing, microcontamination and particle control, troubleshooting of equipment and systems, microlithography, ion implantation, etch and chemical vapor deposition.

1. ***Describe the need for this program by providing clear evidence.***
   We are currently have a MST program at CCC. Based on local industry feedback and college guidelines for guided pathways, we are revising our program. These changes are greater than 30% and thus are considered a new program. We lean very heavily on our industrial advisory committee for curriculum and direction. So far this year we have added two new companies to our advisory committee. This is a growth of 20% on the committee. Everyone on the committee reports a problem hiring trained professionals. So far this year, we have been contacted by local employers with more open positions than we have students to fill those positions. This was true last year as well.

2. ***Does the community college utilize systemic methods for meaningful and ongoing involvement of the appropriate constituencies?***
   Over the last year we have been investigating improvements to our current MST program. We consulted with our industry advisory committee on what we should be doing. We surveyed them to see what skills we currently offered were most valuable to them. We also asked them to provide input on what skills they would like our students to have that they don't currently have. Based on the results of these two surveys we drafted some ideas to improve the MST curriculum. We then presented these ideas and changes to the advisory committee. The committee approved the changes. They believe these changes will help them find more qualified people to hire.

3. ***Is the community college program aligned with appropriate education, workforce development, and economic development programs?***
   There are expected to be more job openings in this field than most occupations in the state of Oregon through 2027. The industrial advisory committee for the MST program reports that they continue to struggle to fine qualified applications to fulfill all of their hiring needs. Courses in the MST program

transfer to Oregon Tech and students may earn a BS in Electronics Engineering Technology. Updates to the program support the guided pathways. We have made it easier for students to enter the program and use technical guided pathways credits in the program.

4. ***Does the community college program lead to student achievement of academic and technical knowledge, skills, and related proficiencies?***
   The program was planned and designed with collaboration from industry partners. They reviewed and provided feedback on program learning outcomes. They also provided surveys prioritizing what skills and technical proficiency they require. We incorporated these requests into the new program. Like the old program, the new program focuses on providing hands on technical knowledge. Students will spend about half of their time building, testing, and troubleshooting electronic and electrical circuits.

5. ***Does the community college identify and have the resources to develop, implement, and sustain the program?***
   Clackamas Community College currently offers an MST program. This new program will be able to use all of the current lab equipment and staff. Many of the classes in this program are being shared with Electronics Engineering, Renewable Energy and Industrial Maintenance. The program won't require an input of any significant new resources.

Assurances

Clackamas Community College has met or will meet the four institutional assurances required for program application.

1. *Access*. The college and program will affirmatively provide access, accommodations, flexibility, and additional/supplemental services for special populations and protected classes of students.
2. *Continuous Improvement*. The college has assessment, evaluation, feedback, and continuous improvement processes or systems in place. For the proposed program, there will be opportunities for input from and concerning the instructor(s), students, employers, and other partners/stakeholders. Program need and labor market information will be periodically re-evaluated and changes will be requested as needed.
3. *Adverse impact and detrimental duplication*. The college will follow all current laws, rules, and procedures and has made good faith efforts to avoid or resolve adverse *inter*segmental and *intra*segmental impact and detrimental duplication problems with other relevant programs or institutions.
4. *Program records maintenance and congruence*. The college acknowledges that the records concerning the program title, curriculum, CIP code, credit hours, etc. maintained by the Office are the official records and it is the college's responsibility to keep their records aligned with those of the Office. The college will not make changes to the program without informing and/or receiving approval from the Office.