“Digitally Enhancing America’s Community Colleges: Strategic Opportunities for Computing Education”

This report is available at acmcecce.org

Innovating Instructional Materials for Computing Coursework

Challenge: Two-year college computing faculty should develop meaningful approaches to instructional materials that are compatible with students’ current computing coursework. The objective is to enhance awareness of instructional materials that are currently available to students and to facilitate the development of innovative approaches to computing education.

Opportunity: Stakeholders, including computing faculty, students, publishers, and bookstores, should be involved in the design and production of innovative instructional materials.

Aligning the Comprehensive Needs of Employers and Graduates

Challenge: Employers and graduates in communities with significant numbers of computing graduates are not yet aligned in their expectations of each other. This misalignment hinders the integration of new curricula into existing programs, and it limits the ability of students to gain industry certification.

Opportunity: Employers should be involved in the design and development of new curricula, and they should be encouraged to participate in cross-disciplinary learning and workforce development initiatives.

Addressing the Comprehensive Needs of Employers and Graduates

Challenge: There is a growing demand for computing graduates who possess both technical skills and soft skills. This demand requires that employers and graduates work together to develop a comprehensive plan for workforce development.

Opportunity: Industry should be involved in the design and implementation of new curricula, and they should be encouraged to participate in cross-disciplinary learning and workforce development initiatives.

Cultivating Student Diversity in Computing

Challenge: Gender, cultural, and other stigmas associated with computing careers are still prevalent in many academic institutions. This challenge hinders the recruitment and retention of diverse student populations.

Opportunity: Institutions should be encouraged to develop and implement strategies that promote diversity and inclusion in computing education.

Preparing Students for the Computing Careers of the Future

Challenge: While two-year colleges are challenged to produce graduates from specialized, career-oriented programs, they are also challenged to ensure that current programs are adequately aligned with industry needs.

Opportunity: Institutions should be encouraged to develop and implement strategies that ensure the alignment of current programs with industry needs.

Embedding Computing Education in Our Changing Society

Challenge: Computing education programs are frequently underfunded or underutilized in many academic institutions. This challenge hinders the integration of computing education into the curriculum.

Opportunity: Institutions should be encouraged to develop and implement strategies that promote the integration of computing education into the curriculum.

Demystifying Computing Disciplines and Professions

Challenge: Computing education programs often lack clear and efficient pathways to computing careers.

Opportunity: Institutions should be encouraged to develop and implement strategies that promote clear and efficient pathways to computing careers.

ACTUALIZING PATHWAYS IN COMPUTING EDUCATION

Challenge: Students are limited in their opportunities to awaken themselves to the computing career that is a cost-effective and time-efficient manner. This challenge hinders the integration of computing education into the curriculum.

Opportunity: Institutions should be encouraged to develop and implement strategies that promote clear and efficient pathways to computing careers.

Attaching and Sustaining Computing Faculty

Challenge: Two-year college computing faculty are stressed beyond the professional expectations of colleges in other disciplines. This challenge hinders the integration of computing education into the curriculum.

Opportunity: Institutions should be encouraged to develop and implement strategies that promote the integration of computing education into the curriculum.

Meeting the Unique Needs of Computing Departments

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Funding Sources

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