BUSINESS PROFILES SPECIAL ADVERTISING SECTION

Kennebec Valley Community College

Bringing business and information technology together



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Computer Systems Integration Program instructor Michael Campbell offers pointers on the integration of business and technology

KENNEBEC VALLY COMMUNITY COLLEGE developed a new Computer Systems Integration Program in 2014 with a focus on teaching students how to implement information technology into a variety of business settings. Mike Malone, a secondyear student in the program, says this program has taught him how to develop his own business plan and policies, as well as design and manage a database for his own food truck business, which he and his wife have always dreamed of.

CSI Instructor Michael Campbell says, "In our database class, he's designed a database to track customers and recipes. In securities, he's analyzing the systems security he'll need. By the time he completes his degree, he'll have a solid business plan." This is just one example of the many ways students are benefiting from KVCC's Computer Systems Integration program, established under the Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant, also known as "Maine is IT." KVCC was one of seven community colleges in Maine funded by a \$13 million grant awarded by the U.S. Department of Labor's Employment and Training Administration to address a critically growing need in Maine for skilled IT workers.

In recognition of the integral role IT plays in the world of business, KVCC is taking the lead in teaching students how information technology is incorporated into our everyday lives and how students can identify and address issues in business or otherwise with IT solutions that improve the way we live and do business. "We live in a world that's data-driven," says Campbell. "A lot of businesses are becoming dependent on data to do what they need to do, even on a small scale. Take the owners of a pizza shop. They have an app that tells them what their bestsellers are and what ingredients are running low. We can collect all kinds of data, but we also have to know how to store it, analyze it, and secure it." The first class started with eight students. Today, enrollment is up to 38 students and growing. The program is designed to accommodate many more with its unique onsite and online class delivery, which gives students the flexibility to choose. All class lectures are recorded and available for viewing at the students' convenience.

Numerous opportunities for graduates include positions as a business technology consultant, test manager, systems consultant, computer resource manager, computer support specialist, processing manager, operations manager, data developer/manager, systems analyst, or network manager.

IT occupations such as Computer Support Specialists can be found in nearly all of Maine's industry sectors.

The worlds of business and technology no longer operate separately—and that intersection is very much in need of trained talent. Studies show that, currently, by 2018 the state will be able to fill only 39% of anticipated IT openings. CSI directly addresses the lack of trained computer technology professionals and ensures the programs meets the current and emerging skill needs of Maine businesses—engaging employers at the local and state level in the development of new and existing curriculum to ensure it aligns with their needs.

"It could be something very simple," says Campbell. "I was talking with a trash collector who's using digital mapping for his routes. That's GPS and timeclocks and a database and a security system that he has to deal with. You wouldn't consider that type of job technologyrelated—but it's there. And it's just going to become more integrated in the future. So the idea for this program is to make it possible for students to take these skills anywhere—not only into a position in an IT company but into an IT service that helps all types of businesses."

"The need is evident," says principal investigator for the grant and Applied Electronics & Computer Technology instructor Bill Dolan, who led the charge in developing the new CSI degree program as well as incorporating enhanced IT equipment and processes in the Applied Electronics & Computer Technology Degree Program. "It's clear, the integration of technology in the workplace is here. That's how businesses are run. And now we can train people to enter that field."

CSI, awarding an Associate in Applied Science Degree, trains students to become highly skilled employees who can improve business practices and optimize computer system performance, giving them the knowledge they'll need to succeed in IT-related careers. Accommodating the schedules of working adults, online or onsite, each class lecture is recorded and available for viewing at the student's convenience. Credits are currently transferable to Husson University and Thomas College, allowing CSI graduates to continue their studies toward the completion of a bachelor's degree. Other articulation agreements are pending. Stackable certifications, certificates, and degrees provide students the opportunity to earn nationally recognized industry certifications such as CompTIA A+ Computer Certification, CompTIA Network+ Certification, CompTIA Security+ Certification, PC PRO— Performance Based Certification, and Security PRO— Performance Based Certification.

In Computer Systems Integration, students learn fundamental business practices and how those practices are improved by computer systems.

"No solution is the same from business to business," says Campbell. "Companies need highly trained thinkers who can match the capacity of computer systems with the needs of the people who use them."

This complete course of studies prepares students for immediate entry in the field or for further studies.

• Introduction to Digital Literacy explains the components that make up computer systems and networks, and how these systems are used in business. Topics include identification and assessment of computer hardware/software, mobile and digital devices, storing and securing information, and effective Internet usage.

• Legal Aspects of Business Information Systems focuses on legal issues surrounding the use of computers and information technology. Health, government, corporate, and commercial applications are covered. Topics include U.S. and international jurisdiction, computer security, intellectual property, electronic commerce, information privacy, freedom of expression, and cybercrime. • Fundamentals of Network Administration explains the software and hardware that makes networking possible. Topics include TCP/IP protocol suite, the OSI Model, network topologies, structured cabling, WAN architecture and remote connectivity, fiber optic systems, voice/video over IP, and wireless systems.

• Business Systems Integration focuses on the alignment of business systems with organizational needs. Topics include the purpose, functions, components, and applications of transaction processing, management reporting systems in private and public organizations, and policies for information resource management.

• Network Design and Management covers implementation and administration of enterprise networking and distributed applications. Case studies illustrate middleware, network architecture for distributed applications, network integrity, security, and technologies to support enterprise systems.

• Data Systems Analysis provides an overview of the system development life cycle, with an emphasis on documentation through classical and structured tools/techniques to describe process flows, data flows, data structures, file designs, input and output designs and program specifications.

• **Project Management** covers the manner in which a system project is planned, scheduled, and controlled during the project's life, with the use of project management techniques such as PERT (Project Evaluation and Review Technique).

• Database Design and Management introduces database development, including data modeling, database design, and database implementation. Students practice design skills by developing a small database project. • Interactive User Interface Design discusses user interface theories, guidelines, and principles relevant to the design and use of information systems. The goal is for students to follow the complete systems development life cycle in analyzing designing, developing, implementing, and evaluating an interactive user interface.

• Information Systems Security relates to the establishment and maintenance of a practical information security program, with an examination of the security implications of databases, telecommunications systems, and software, as well as techniques to assess risks and to discover abuses of systems.

"This program represents the marriage of business and technology," says Campbell. "The ultimate goal is for graduates to understand the technology, its existing use in the business world—and its potential. On the analysis side, graduates are able to assist businesses by figuring out how to integrate and maintain the technology they need to stay on target toward their company's goals. They'll be able to help businesses figure out what works and what doesn't."

In many cases, businesses find it difficult to articulate their needs when it comes to information technology.

"A lot of people think technology is a Band-Aid that will fix all their problems—but they don't know what type of technology they need or how it will help," says Campbell. "We teach our students how to help businesses articulate their needs. It's not just about the technology, but about being able to find out what the problem is and—not just throw money or computers at it—figure out the best technology to solve the problem."





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