Information Technology: Information Support and Services
Career Pathway Plan of Study for ▶ Learners ▶ Parents ▶ Counselors ▶ Teachers/Faculty

*This Career Pathway Plan of Study (based on the Information Support and Services Pathway of the Information Technology Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. *This Plan of Study, used for learners at an educational institution, should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.*

EDUCATION LEVELS	GRADE	English/ Language Arts	Math	Science	Social Studies/ Sciences	Other Required Courses Other Electives Recommended Electives Learner Activities	*Career and Technical Courses and/or Degree Major Courses for Information Support and Services Pathway	SAMPLE Occupations Relating to This Pathway
		Interest Inventory Administered and Plan of Study Initiated for all Learners						
SECONDARY	9	English/ Language Arts I	Algebra I or Geometry	Earth or Life or Physical Science	World History	All plans of study should meet local and state high school graduation requirements and college entrance requirements. Certain local student organization activities are also important including public speaking, record keeping and work-based experiences.	• Introduction to Information Technology • Information Technology Applications	▶ Account Manager ▶ Applications Integrator ▶ Call Center Support Representative ▶ Customer Service Representative ▶ Data Systems Designer ▶ Database Administrator ▶ Database Analyst ▶ E-Business Specialist ▶ Help Desk Specialist ▶ Information Systems Architect ▶ Instructional Designer ▶ Maintenance Technician ▶ PC Support Specialist ▶ PC Systems Coordinator ▶ Product Support Engineer ▶ Support Engineer ▶ Systems Analyst ▶ Technical Communicator ▶ Testing Engineer
	10	English/ Language Arts II	Geometry or Algebra II	Biology	U.S. History		• Fundamentals of Computer Systems	
	11	English/ Language Arts III	Algebra II or Pre-Calculus or Trigonometry	Chemistry	Political Science Economics		• Introduction to Information Support and Services	
		College Placement Assessments-Academic/Career Advisement Provided						
	12	English/ Language Arts IV Technical Reading	Pre-Calculus or Trigonometry AP Calculus or Advanced Math	Applied Physics			• Advanced Applications (Students are encouraged to have an internship/capstone experience to reinforce workplace skills.)	
		Articulation/Dual Credit Transcripted-Postsecondary courses may be taken/moved to the secondary level for articulation/dual credit purposes.						
POSTSECONDARY	Year 13	English Composition English Literature	Calculus	Chemistry	American Government Psychology	All plans of study need to meet learners' career goals with regard to required degrees, licenses, certifications or journey worker status. Certain local student organization activities may also be important to include.	• Communications in Information Technology • Network Applications	
	Year 14	Speech/ Oral Communication Technical Writing	Computer Applications	Biological Science Physics	American History Geography		• System Installation and Maintenance	
	Year 15	Continue courses in the area of specialization.					• Continue Courses in the Area of Specialization	
	Year 16						• Complete Information Support and Services Major (4-Year Degree Program)	

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FOR INNOVATION IN THE COMMUNITY COLLEGE

Creating Your Institution's Own Instructional Plan of Study

With a team of partners (secondary/postsecondary teachers and faculty, counselors, business/industry representatives, instructional leaders, and administrators), use the following steps to develop your own scope and sequence of career and technical courses as well as degree major courses for your institution's plan of study.

1 Crosswalk the Cluster Foundation Knowledge and Skills (available at **http://www.careerclusters.org/goto.cfm?id=92**) to the content of your existing secondary and postsecondary programs/courses.

2 Crosswalk the Pathway Knowledge and Skills (available at **http://www.careerclusters.org/goto.cfm?id=52**) to the content of your existing secondary/postsecondary programs and courses.

3 Based on the crosswalks in steps 1 and 2, determine which existing programs/courses would adequately align to (cover) the knowledge and skills. These programs/courses would be revised to tighten up any alignment weaknesses and would become a part of a sequence of courses to address this pathway.

4 Based on the crosswalks in steps 1 and 2, determine what new courses need to be added to address any alignment weaknesses.

5 Sequence the **content** and **learner outcomes** of the existing programs/courses identified in step 3 and new courses identified in step 4 into a course sequence leading to preparation for all occupations within this pathway. (See list of occupations on page 1 of this document.)

6 The goal of this process would be a series of courses and their descriptions. The names of these courses would be inserted into the *Career and Technical Courses* column on the Plan of Study on page 1 of this document.

7 Below is a **sample result** of steps 1-6, and these course titles are inserted into the Plan of Study on page 1 of this document.

8 Crosswalk your state academic standards and applicable national standards (e.g., for mathematics, science, history, language arts, etc.) to the sequence of courses formulated in step 6.

Information Technology: Information Support and Services
SAMPLE Sequence of Courses for ▶ Instructional Leaders ▶ Administrators ▶ Counselors ▶ Teachers/Faculty

Below are suggested courses that could result from steps 1-6 above. However, as an educational institution, course titles, descriptions and the sequence will be your own. This is a good model of courses for you to use as an example and to help you jump-start your process. <u>Course content may be taught as concepts within other courses, or as modules or units of instruction.</u>

The following courses are based on the Cluster Foundation Knowledge and Skills found at http://www.careerclusters.org/goto.cfm?id=92. These skills are reinforced through participation in student organization activities.

#1

Introduction to Information Technology: This course introduces the student to the knowledge base and technical skills for all careers in the Information Technology Career Cluster. Learners will study the nature of business and demonstrate knowledge of the functions of information systems in business. Emphasis will be placed on maintaining a safe working environment and on building interpersonal skills needed for working in the IT environment. Students will demonstrate appropriate knowledge and behaviors of legal responsibilities by IT professionals. Students will explore a variety of IT career opportunities and develop a personal career plan to meet their career goals and objectives. This may be taught as a career exploration course in conjunction with other foundation Career Cluster courses.

#2

Information Technology Applications: Students will use technology tools to manage personal schedules and contact information, create memos and notes, prepare simple reports and other business communications, manage computer operations and file storage, and use electronic mail, Internet applications and GIS to communicate, search for and access information. Students will develop skills related to word processing, database management and spreadsheet applications. Students will demonstrate knowledge of hardware components, classes of software, basic data communications components and trends, and technical knowledge of the Internet including Internet protocols. Students will demonstrate understanding of Internet security issues, how to use and troubleshoot Internet connections including Internet software, how to use virus protection techniques and how to use the Internet to communicate and collaborate. Students will install and configure software programs, demonstrate knowledge of Web page basics, apply knowledge of operating system principles, employ computer system interfaces and demonstrate a basic knowledge of quality assurance concepts.

#3

Fundamentals of Computer Systems: Students will demonstrate knowledge and problem-solving skills in the area of operating systems and computer hardware. This would include, but not be limited to, storage and drives, system boards, processors, memory, peripherals and networks. Emphasis will be placed on speech and client-oriented communication skills.

The following course is based on the Cluster Foundation Knowledge and Skills as well as the Pathway Knowledge and Skills found at http://www.careerclusters.org/goto.cfm?id=52. These skills are reinforced through participation in student organization activities.

#4

Introduction to Information Support and Services: Students will continue to apply their knowledge of hardware and software components associated with information systems while exploring a variety of careers related to information support and services. Students will analyze technical support needs to perform customer service, perform configuration management activities and evaluate application software packages. Students will demonstrate and apply knowledge of information system analysis and design by initiating a system project and evaluating applications within the information system.

The following courses expose students to Pathway Knowledge and Skills found at http://www.careerclusters.org/goto.cfm?id=52 and should include appropriate student activities.

#5

Advanced Applications: Students will demonstrate and apply knowledge of Web programming and hosting as well as various databases. Students will study programming language concepts and identify the stages of program development as well as the technical documentation associated with software development.

#6

Communications in Information Technology: Students will apply fundamentals of technical writing and documentation. Specific course requirements will include technical writing assignments related to information technology, technical research, technical documentation design, and review and presentation of reports.

#7

Network Applications: Students will demonstrate knowledge of networking concepts including the basics of network architecture, general characteristics of network operating systems, network applications, and the application development life cycle. Students will also demonstrate an understanding of quality assurance processes by selecting and using quality tools and analyzing quality cost implications.

#8

System Installation and Maintenance: This course focuses on system installation and maintenance including system life cycles, management of backup and recovery procedures, system troubleshooting and evaluation of problem-solving processes and outcomes. Students will demonstrate knowledge of system administration and control as well as their knowledge of project management and methodologies.