

THE INFORMATION TECHNOLOGY CAREER PATHWAY FOR NEW HAMPSHIRE STUDENTS

Updated 02/19/01

A. Major IT Issues Identified by the National TechForce Initiative

Issue 1

There is a severe IT skills gap, worker shortage, and an unreliable job pipeline.

Goal 1: To create a reliable labor pool of skilled workers with skills and competencies in three areas: academics, technical and employability.

Issue 2

For some students career counseling and exploration is fragmented.

And as a result they lack core skills required for entry into IT careers.

Goal 2: To provide students and educators with the information, career awareness, education and training when and where they need it for the information age economy - with Information Technology at its core.

B. The Western NH Business and Education Partnership's Mission

- To align industry standards within existing curriculum & identify skill gaps.
- To seek instructional alternatives.
- To formalize worksite placements
- To pilot "Future Teacher's Academy" & to recruit business/technology educators.

C. IT Skills and Knowledge for Literacy, Fluency, All Work and IT Employability

Technology and Society	Graphics Image Processing	Spreadsheet
Information Literacy	Multimedia Publishing	Operating Systems
PC Principles and Operation	Keyboarding	Programming
Worldwide Web	E-Mail	Hardware Installation and Configuration
Word Processing	Software Systems and Integration	Network Technologies
Desktop Publishing	Database Software	Self-Management, Teamwork and Communication Skills

Source: The Techforce Initiative IT Pathway Pipeline Model: Rethinking Information Technology Learning in Schools by EDC and ITAA

D. Recommended Sequence of Courses to Develop IT Skills and Knowledge

Core Academic Courses	IT & ME	IT Career Cluster Courses
4 credits of English 2-3 credits of Math 2-3 credits of Science 2-3 credits of Social Studies 2-3 credits of Foreign Language ½ - 1 credit of Art/Music	Required 9th Grade Foundation Course that integrates technical skills and career concepts <i>Note: The Cheshire Center at Keene High School and Fall Mountain Regional High School in Alstead are pilot sites for this course, which integrates technical, career and employability skills. (see course description)</i>	Business Math Personal Finance Technical Writing Introduction to Business Introduction to E-Commerce Communications for the Workplace Marketing Human Relations and the Organization Ethics and Society Applied Logic Algebra I and Geometry
IT Career Technical Strands		
Business Information Systems Keyboarding/Word Processing Microsoft Office Advanced Word Processing Desktop Publishing Intro to Multimedia Business Info Processing MOUS Certification BIS Internship	Interactive Media Photo Imaging Intro to Multimedia Web Programming I Web Style and Design Web Page Development Intro to 3D Animation Sound Editing Video Editing Studio Production	Programming & Software Development Database Design Computer Technologies Foundations of Programming Visual Basic for Application Intro to C++ Web Programming Web Style & Design Web Page Development Master CIS Web Designer
Network Systems		
What's in the Box?, Computer Technologies, Introduction to Computer Networking, Windows 2000, A+ and N+ Certification, Cisco Networking Academy, Computer Installation and Repair Internship		

E. The Pathway to Postsecondary Work/Education

Assessment	High School Based Certificate Program	Post Secondary Certificate Programs	Associate's Degree	Bachelor's Degree
NHEIAP Administered in Grades 3, 6, & 10	4 credits of English 2-3 credits of Math 2-3 credits of Science 2-3 credits of Social Studies 1 credit IT/Careers ½ credit Art/Music	NHTI – Concord Computer Information Systems Computer Technology Programming McIntosh College-Dover Computer Systems Management Web & Graphic Design Net+ (CompTIA) NHCTC – Nashua Computer Networking Web Site Design Internet Server Administration Internet Developer NHCTC – Claremont CAD Computer Networking & Web Site Design NHCTC – Stratham/Pease Multimedia Production Office Technologies Web Development Franklin Pierce College New Horizons Computer Learning Center	4 credits of English 2-3 credits of Math including Alg. I and Alg.II, Geometry 2-3 credits of Science: preferably Physical Science, Biology & Chemistry 2-3 credits of Social Studies 1 credit IT/Careers ½ credit Art/Music A.A./A.S. Options Computer Science Hesser College, McIntosh College Information Science and Systems Daniel Webster College, NHCTC at Berlin, Laconia, Manchester, Pease, Nashua, Claremont, Hesser and McIntosh Data Processing Tech/Technician NHCTC at Nashua, Claremont Computer Programming Hesser Computer and Information Sciences (general) NHCTC Concord, Claremont, Nashua Computer Systems Analysis McIntosh	4 credits of English 2-3 credits of one Language 3-4 credits of Math including Geometry, Alg.II and Advanced Math 3-4 credits of Science including Biology, Chemistry and Physics 2-3 credits of Social Studies including World History and Contemporary Issues 1 credit IT/Careers ½ credit Art/Music B.A./B.S. Options Computer Science Daniel Webster, Dartmouth, Franklin Pierce, Keene State, Plymouth State, UNH, Saint Anselm, Rivier Information Science and Systems Daniel Webster Computer Programming Daniel Webster, Franklin Pierce Computer and Information Science (General) New Hampshire College, Plymouth State Management and Information Technology Daniel Webster College
PSAT 10 th Grade	Certification Options AutoCAD Release Cisco Certified Network Assoc. A+ Computer Technician Net+ (ComTIA) *Associate Technology Specialist Microsoft Cert. Product Spec. Microsoft Cert. Internet Spec. Cat. 5 Network Cabling Spec. Fiber Optic Cable Installation Termination Cabling Spec. Cert. Netware Administrator MOUS Cut –wd -Excel *Note: Vender Neutral Certification under Development by the Chauncey Group.			
SAT&ACT 11&12 th Grades				
Competency Based Transcript H.S. Pilot Sites: ConVal Dover Fall Mtn John Stark Pembroke Hopkinton Kearsarge Lisbon Milton Moultonborough Salem Stratford				

F. The Role for NH Employers in IT Technical and Employability Skill Development

Grade 4 (IT Literacy)	Grade 8 (IT Fluency)	Grade 10 (IT for all Work)	Grade 12 (IT Employability)	Grades 13-14 (Higher Skilled IT Employability)
<ul style="list-style-type: none"> Guest Speaker –all grades Virtual field trips Virtual interviews Demos of electronic tools Community projects 	<ul style="list-style-type: none"> Workplace field trips Job Shadow Classroom mentors Business/school projects Community projects Service projects Day at College JR Achievement 	<ul style="list-style-type: none"> Field trips to Hi-Tech Co. Mentoring by IT professionals Shadowships Intensive work-based learning experiences Initial internship/apprenticeship experiences School-based businesses 	<ul style="list-style-type: none"> Internships Apprenticeships Employer sponsored competitions Continued intensive work-based learning experiences 	<ul style="list-style-type: none"> Coop jobs Continued work-based learning experiences Web-based businesses Personal small business Student as IT consultant to small businesses Related part-time employment
Grade K-8 Models		Grade 9-12 Models		Grade 13-14 Models
<ol style="list-style-type: none"> K-8 Integration of Career Development Framework at the Walpole Elementary School, Walpole, NH "The Real Game" Career Simulation Project at the Bradford Elementary School, Bradford, NH "College for a Day" program – a partnership between Colby-Sawyer College and the New London Middle School in New London, NH Career Exploration Project at Boynton Middle School, in New Ipswich, NH that includes IT Industry Tours and Power Point Presentation. 		<ol style="list-style-type: none"> The Incubator Project – a School-to-Career Partnership between the ConVal School District and Web Site Publicity, Peterborough, NH The Future Technology Leaders Internship Program at the Cheshire Career Center in Keene, NH US First Competition – a Partnership between Keene High School and Sims Portex, Keene, NH The OSRAM-Sylvania Internship Program with Hillsboro-Deering High School, Hillsboro, NH Future Teacher's Academy, a partnership among NEA-NH, Kearsarge Regional High School, NHTI, and the Western NH Business and Education Partnership 		<ol style="list-style-type: none"> Cheshire Career Center & Sims Portex Internship IT Internship Project between NHCTC – Pease and E-Coast Technology Roundtable Future Teacher's Academy – a collaboration among the NEA – NH, NHTI, Kearsarge Regional High School and the Western NH Business & Education Partnership

G. Professional Development

The Educator in the Workplace Program is sponsored by the Western NH Business and Education Partnership. The "EITW" is a seven-day professional development opportunity whereby teachers and business partners exchange information regarding the skills and competencies required of our emerging workforce. For more information, contact Marsha Miller at 603-332-0925.