HIGH SCHOOL: Helena High School	*BIG SKY PATHWAY PROPOSAL*
COLLEGE: Helena College University of Montana	
COLLEGE DEGREE PROGRAM: Computer Technology AAS Programming Option	

Cluster Overview:	Pathway Options:	Occupation Examples:
Information Technology careers encompass entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services.	• Network Systems • Information Support and Services • Web and Digital Communications • Programming and Software Development	Animator, Database Administrator, Data Systems Designer, E-Business Specialist, Game Developer, Information Technology Engineer Media Specialist, Network Administrator, Network Security Analyst, PC Support Specialist, Programmer, Software Applications Specialist, Systems Administrator, Telecommunications Network Technician, User Support Specialist, Virtual Reality Specialist, Web Architect/Designer *For a complete listing, go to:* *http://online.onetcenter.org/find/career?c=11&g=Go*

SUGGESTED HIGH SCHOOL COURSES

9th	Graduation Requirements Workforce/2-Year College Prep	English I; Algebra I; Earth Science; World Cultures; Physical Ed I	**Recommended CTE Cluster Foundation Course(s):** Basic Computer Skills; Tech Skills for Life; Computer Science (HHS and/or MTDA)
	4-Year MT College/Univ Prep (Rigorous Core)	English I; Algebra I; Earth Science; World Cultures; Physical Ed I	
	CTE and/or Electives	Computer Science (Java - HHS); Cisco I, Computer Science (Python – MTDA); Basic Computer Skills; Tech Skills for Life	**Recommended CTE Pathway Courses:** Computer Science (HHS and/or MTDA); Oracle; Cisco 1
10th	Graduation Requirements Workforce/2-Year College Prep	English II; Geometry; Biology; Health; Physical Ed II; Art	
	4-Year MT College/Univ Prep (Rigorous Core)	English II; Geometry; Biology; Health; Physical Ed II; Art	
	CTE and/or Electives	Computer Science (Java - HHS); Cisco I , Computer Science (Python – MTDA); Marketing	**Other Recommended CTE Courses:** Marketing; Bengal Business; Accounting; Small Business Management; Drafting, JMG; Cisco 2-4
11th	Graduation Requirements Workforce/2-Year College Prep	English III;; Algebra II; US History	
	4-Year MT College/Univ Prep (Rigorous Core)	AP Language and Composition; Algebra II; AP US History; Chemistry; Bio II or Chemistry	
	CTE and/or Electives	CSCI100 Intro to Programming; CSCI111Programming with Java; Cisco I , Computer Science (Python – MTDA); Basic Computer Skills; Bengal Business; Small Business Management	
12th	Graduation Requirements Workforce/2-Year College Prep	English IV or WRIT121T Technical Writing; US Government; M121 College Algebra;	**Career & Technical Student Organization(s):** BPA, DECA
	4-Year MT College/Univ Prep (Rigorous Core)	WRIT101 College Writing/English IV or WRIT121T Technical Writing; AP Government; M121 College Algebra; Physics	
	CTE and/or Electives	CSCI240 Databases & SQL (Oracle); Accounting 1; Marketing; DFT150 CAD 2D (Drafting)	

ADVANCED LEARNING OPPORTUNITIES
High School to College/Career Linkages

CTE START courses:
Advanced Placement or IB courses: AP US History; AP European History; AP Government; AP Psychology; AP English III & IV; AP Calculus; AP Biology
Dual Enrollment courses: M121 College Algebra; WRIT101 College *Writing , WRIT121T* Technical Writing; CSCI100 Intro to Programming; CSCI111 Programming with Java 1; NTS104 Intro to Networks; CSCI240 Databases & SQL (Oracle); DFT150 CAD 2D (Drafting)
Online courses: MTDA: CSCI 107 Joy and Beauty of Computing (as per district policy 2.5 credits count towards graduation requirements)
Other: Helena Robotics Club, Business Co-op, Internships

POSTSECONDARY PROGRAM OF STUDY

	Math	English	Major	Other
Semester 1 (15 credits)	M121 College Algebra **/or** M115 Linear Mathematics 3CR	WRIT101 College Writing **/or** WRIT121T Technical Writing 3CR	CSCI100 Intro to Programming 3CR OR CSCI107 Joy & Beauty 3CR BMIS285 Fundamentals of Management Information Systems 3CR	ITS164 Networking Fundamentals 3CR **OR** NTS104 Intro to Networks 3CR Successful placement or CAPP 100
Semester 2 (18 credits)			CSCI111 Programming with Java I 4CR CSCI240 Databases & SQL 3CR ITS280 Comp. Repair & Maintenance. 4CR MART145 Web Design 3CR	SOCI101 Intro to Sociology /or PSYX100 Into to Psychology /or HR110T Career Development and Human Relations 3CR
Semester 3 (14 credits)			CSCI 2?? DB xxxxx 3CR CSCI211 Client Side Web Dev 3CR CSCI221 Syst. Analysis & Des. 4CR CSCI236 XML Data Processing 2CR CSCI276 Application Security 2CR	
Semester 4 (15 credits)			CSCI121 Program w/Java II 4CR CSCI238 Standard Mobile Apps 3CR CSCI206 .NET Applications 4CR CSCI 2xx Web Services 3CR	CSCI298 Internship **OR** CSCI299 Thesis/Capstone 2CR…

MONTANA POSTSECONDARY OPPORTUNITIES

Montana University System Degree and Program Inventory: http://www.homepage.montana.edu/~mus/drginv/
Your Guide to Montana's Certificate and Associate Degree Programs: http://mus.edu/twoyear/YourGuide.html

MSU Two Year Colleges and Programs: City College MSUB—Billings (CC); Great Falls College MSU—Great Falls (GFC); Helena College UM—Helena (HC) Highlands College MT Tech—Butte(HC-Tech); Missoula College UM—Missoula (MC); Gallatin College MSU—Bozeman(GC)	**Community Colleges:** Dawson Community College (DCC) Flathead Valley Community College (FVCC) Miles Community College (MCC)	**Tribal Colleges:** Aaniiih Nakoda College (ANC);Blackfeet Community College(BCC); Chief Dull Knife College (CDKC);Fort Peck Community College (FPCC);Little Big Horn College (LBHC);Stone Child College (SCC);Salish Kootenai College (SKC)	**Four Year Colleges/Universities:** MSU—Bozeman; MSUB—Billings; MSUN—Havre; MT Tech—Butte; UM—Missoula; UMW—Dillon

MILITARY	• Requires diploma or GED • 17 with parental consent; 18 without	Air Force, Air Guard, Army, Coast Guard, Marines, and Navy For more information: http://todaysmilitary.com
PROFESSIONAL CERTIFICATE	• Requires diploma or GED • Less than 30 credits; little/no general ed credits • Complete in one year or less	
APPRENTICESHIP	• Requires diploma or GED • Must be at least 18 • Minimum 2,000 hours of supervised experience	See the MT Dept of Labor website for more information: http://wsd.dli.mt.gov/apprenticeship/default.asp
CERTIFICATE OF APPLIED SCIENCE	• Requires diploma or GED • 30-45 credits; limited general education credits • Complete in one year or less	Computer Assistant — HC, HC Tech, GFC Computer Desktop/Network Support — FPCC Computer Networking — CC, HC Tech, GFC, UMW Computer Science/Technology — BCC Computer Skills Specialist — HC Computer Support — MC Programming Technology — FPCC Web Technology/Development/Design — DCC
ASSOCIATE'S OF APPLIED SCIENCE DEGREE	• Requires diploma or GED • 60-72 credits; includes 15-25 general ed credits • Complete in two years *(if prepared academically in math and English)*	Computer Desktop/Network Support — CC, SKC Computer Graphics — MCC Computer Information Systems — MC, MSUN, Computer Networking — HC, MC, HC Tech, GFC, MCC, FPCC Computer Science/Technology — FPCC, BCC Computer Systems Tech — CC Computer Technical Support Specialist — DCC Information Technology/Systems — FVCC Microcomputer Specialist/Technology — GFC Programming Technology — HC, CC Web Technology/Dev/Design — HC Tech , GFC, FVCC

| BACCALAUREATE DEGREE | • Requires 4-year college prep for admission
• 128 credits (approximately)
• Complete in four years | Computer Engineering — MSU, SKC
Network Technology — TECH
Computer Science — MSU, UM
Computer Info Systems — MSUN
Information Systems — UM
Information Technology — SKC |

Degree and Program Inventory above may not be all inclusive