

Variable Stipend (Act 31-II), Fiscal Year 2001-2002
Web Master Track
Computer Information Systems/Telecommunications Dept.

**WEB MASTER
COMPUTER INFORMATION SYSTEMS/TELECOMMUNICATIONS**

Coherent Sequence

The courses in the First Semester (Introduction to Computers, Microcomputer Applications, Visual BASIC I, and Principles of Web Programming, and Computer Graphics) are designed to teach the students computer concepts and software use for personal, educational, and business purposes. It also provides them with introductory Visual Programming skills, Web programming using HTML, DHTML, and XML and use of computer graphics to enhance user interfaces.

The Second Semester courses (Visual BASIC II, Internet, Java Script, and Publishing on the Web) are designed to teach students advanced event driven programming techniques, database creation, access, and report generation through Crystal Report. This semester students also begin learning how to design and produce Web page using the latest Web software development tools currently available in the market. Finally, they are introduced to scripting languages.

The Third Semester courses (Active Server Pages, Java I, E-commerce Applications, and Advanced Microcomputer Applications) are designed to teach students Object Oriented Programming basics, Client-Side, and Server-Side Web application development. In this semester students also learn how to use and evaluate E-commerce applications in terms of their functionality. They also learn how to produce commercial document, spreadsheets, graphs, databases, and presentations.

The Fourth Semester courses (Java II, Database Driven Web Sites) are designed to teach students advanced Web programming skills. Through series of project students will design and develop the Server-Side software to be utilized as gateways to interact with a wide variety of databases found in all E-commerce servers today.

Relation to Job Skills and Knowledge of the Occupation:

Number of transaction over the Web within the last three has been growing exponentially. This E-commerce market growth is predicted to continue for years yet to come. Thus it is necessary to provide our students with Web Development and Web programming skills in order to prepare them for the newly developed job market.

The Web Master curriculum provides the students with the Web Development and Web programming skills necessary to assist both the for-profit and the non-profit entities to become part of the Internet. This curriculum also provides the students with the necessary preparation for Industry standard certification examinations.

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New/Change Program Form (ACT 31-II)
 Summary Analysis of Occupational Programs
 Community College Act 31 (Variable Stipend)
 Fiscal Year 2000-2001

Type of Program	
Advanced Technology	
Statewide	
Other Occupational	

Type of Degree	
Associate Degree	
Certificate	
Diploma	

Reason for Submission	
New Program	
Changed Program	
5-Year Review	

Committee Use	
Approved	
Disapproved	

Institution:		Completed By:		Date:	
Program Title:					
CIP Code		CIP Program			
Number:		Title: Number:			

Catalog Page #: _____ Credits Required: _____

Total Number of Courses:	15	Total Number of	45	Total Number of Courses:	7	Total Number of Credits:	21

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Form 3 - Advanced Technology Programs (ACT 31-III)
Summary Analysis of Advanced Technology Programs
Community College Act 31 (Variable Stipend)
Fiscal Year 2001-2002

<u>Reason for Submission</u>	Total Credit Hours in Program: <u>66</u>	CIP Code: _____
<input checked="" type="checkbox"/> New Program	Total Contact Hours in Program: _____	Advanced Technology Contact Hours: <u>564</u>
<input type="checkbox"/> Changed Program	<u>2000 -</u>	
<input type="checkbox"/> 2001 Review	Catalog Edition: <u>2001</u>	Minimum for Certificate Program: <u>100</u>
		Minimum for Degree Program: <u>150</u>

Institution: Community College of Beaver County
 Program Title: Web Master - Computer Information Systems/Telecommunications

- List Advanced Technology Outcomes:**
1. Design and code interactive application programs using Visual BASIC.
 2. Create Web pages using MS FrontPage for a given application.
 3. Code animated objects to be utilized for Web application using Java.
 4. Given an application, code the client side applet with its associated event handling methods in Java.
 5. Given an application, code the client side applet and the server-side application in VBScript and JavaScript.
 6. Given a Web application create Web pages using HTML, DHTML, XML.
 7. Test, debug, and maintain computer programs coded in Visual BASIC.
 8. Test, debug, and maintain computer programs coded in JAVA.
 9. Select the best E-commerce application for a given business.
 10. Take Microsoft's MOUS Certification examination and successfully pass the exam.
 11. Take Microsoft's MCSD Certification examinations and successfully pass the exams.
 12. Acquire on the job experience in Client-Side and Server-Side Web programming.

Course Number	Page Number	Lecture Hours	Lab Hours	Advanced Tech Contact Hours	Specific Advanced Technology Instructional Activities, Including Any Analytical Understanding of and Hands on Use of Equipment
BD150	107	45	20	30	Study of computer hardware: input/output devices, storage devices, processors through use of microcomputers. Basic operating system functions through use of the latest version of Windows operating system. Study of computer communications hardware and software: NIC, modems cables, hubs, browsers, search engines, e-mail using computers connected to the internet via a LAN.
BD158		45	35	40	Create Web pages to present information using the appropriate HTML and DHTML tags (graphics, links, lists, tables, frames, cascading style sheets, and multimedia). A study of additional features provided in SGML and XML for Web page creations.
BD160	108	45	20	35	A study of "Event Driven Programming" through use of Visual BASIC: VB controls and their associated properties and procedures calls, building interactive GUI based on common interface standards. General programming logic and syntax. Developing Event Driven applications using

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					<i>variables, arithmetic, relational, and logical operators. Use of the Menu editor.</i>
BD165	108	45	20	35	<i>Study of the tools and methods available in Visual BASIC (OLE, ActiveX Controls) to increase the interaction between a user and the computer. Study of loops, advanced decision structures, and data validation. Use of VisData to create databases. Use of QSL instructions in VB environment. Use of Crystal Report to access data stored over variety of DBMS.</i>
BD168		45	35	40	<i>Working with variables, functions, and events to create interactive Web pages. Use of Java script and DHTML to create animations on the Web pages. Cookies and security concerns when using the Web.</i>
BD170	108	45	20	35	<i>A study of the Internet's structure and TCP/IP protocol suite, use of search engines to access the information available on the Internet for academic and business use; use of POP3 e-mail and ftp; designing and coding Home Pages using HTML and MS Front Page.</i>
TC172	124	30	30	54	<i>Desktop computer media presentation. Scanned image manipulation. Structured, bitmap, and 3-D graphics techniques. Digital composition. Image isolation techniques. Graphical content analysis. Web graphics.</i>
BD177		45	25	35	<i>Install and configure a programming environment for JAVA, code applets/applications through use of custom-made objects and their associated methods, determining events created by a user when using a JAVA applet and providing the appropriate event handling method.</i>
BD182		45	35	40	<i>A study of E-commerce software development tools and the security threats due to these types of software. Converting a traditional commerce to an E-commerce using Yahoo's and BigStep on-line store software applications. Creating an E-commerce store catalog using MS Access.</i>
TC182	124	30	30	45	<i>Visual and technological considerations for electronic publishing. Digital photography, image correction. Type management, style tags, master pages. Desktop output technologies for print distribution. PDF and HTML conversion for web-based distribution. Web page design for business application.</i>
BD185		45	35	40	<i>A study of the difference between the Server-side (application) and the Client-side (applet) programming. Study of ActiveX controls in Web programming. Study of ASP object modules and their use in a Web application. Create Web applications that interact with databases.</i>
BD235		45	25	35	<i>Developing advanced user interfaces with the AWT, Class rules, Error handling and security, Handling data through Java streams, Communicating across the Internet, JAVABeans, Designing a user interface and handling user events with Swing.</i>
BD241	108	45	20	35	<i>An introductory level study of microcomputer based decision support systems and productivity tools; use of electronic spreadsheets to create mathematical and statistical, and business models; use of data base management to design, collect and generate reports for business applications; use of presentation software to prepare presentations for variety of occasions</i>
BD243		45	35	40	<i>Generate form letters, mailing labels, and envelopes using MS Word. Using MS Excel's financial functions and 3-D formulas create spreadsheets and graphs. Create databases, design the interface to interact with the databases and generate reports using MS Access. Create presentations containing clip arts, graphs, and animations.</i>
BD245		45	35	40	<i>A study of methods used to connect Web pages to databases for a wide variety of Web applications. Use of Web application development tools to access dababases. Use of JavaScript and VBScript to code CGI application. Database conversion from a given environment to another environment.</i>
BD260		0	90	15	<i>Develop Web pages using HTML and/or FrontPage. Design and implement applications utilized by businesses using industry standard application development tools. Design and code the necessary Client-Side applets using VB and Java scripting languages for a given E-commerce</i>

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					<i>application. Design and code Server-Side software components for a given E-commerce application in VB or Java.</i>
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