

**Common Course Outline**  
**EBUS 221**  
**Advanced Programming for Web Development Using Visual Basic**  
**3 Semester Hours**

**The Community College of Baltimore County**

**Description**

Advanced Programming for Web Development Using Visual Basic covers advanced topics in Visual Basic used to develop Web based applications. It builds on the skills acquired in CINS 220. Topics will include multithreading graphics and multimedia, XML documents, Stream Based Sockets, and ASP.NET Applications.

Prerequisite: CINS 220 or permission of program coordinator

**Overall Course Objectives**

Upon completion of this course the student will be able to:

1. Create and run a simple Web form;
2. Connect to a database ASP.Net;
3. Describe the need for session tracking;
4. Describe the function and role of Web Services and Simple Object Access Protocol (SOAP);
5. Define XML namespaces;
6. Describe the document object model (DOM);
7. Describe the role of an extensible style sheet language;
8. Write a simple XML document;
9. Establish a simple server using stream sockets;
10. Establish a simple client using stream sockets;
11. Describe the life cycle of the thread;
12. Manage thread sync using the monitor class;
13. Employ multithreading in a program;
14. Use the image class to manipulate and display images;
15. Use graphic path class to draw complex shapes to simple shapes; and
16. Use Windows Media Player and Microsoft Agent in a Visual Basic Application.

**Major Topics**

- I. ASP.NET Applications
  - A. Web form
  - B. Connecting to a database
  - C. Session tracking
  - D. Function and role of Web services and SOAP;
- II. XML
  - A. Creating an XML document
  - B. Namespaces

- C. Document Object Model
- D. Role of style sheets
- III. Stream Sockets
  - A. Establishing a Simple Server
  - B. Establishing a Simple Client
- IV. Multithreading
  - A. Life cycle of the thread
  - B. Managing thread sync
  - C. Employing multithreading
- V. Graphics and Multimedia
  - A. Manipulating and displaying using image class
  - B. Drawing complex shapes to simple shapes using graphic path
  - C. Using the Windows Media Player and Microsoft Agent in a Visual Basic Application

**Course Requirements** (List only those requirements that will be common to all sections of the course.)

Grading/exams: Grading procedures will be determined by the individual faculty member, will be provided the first week of class, and will include the following:

1. Minimum of 5 programming projects
2. Minimum of 2 tests
3. Comprehensive final or programming project

Writing: The individual faculty member will determine specific writing assignments.

**Other Course Information**

- This course is a required course for the Technology Track of the E-Business Program.
- This course is taught online.

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in the Common Course Outline.

Date Revised: 12/01/02