

COURSE OUTLINE **JavaScript**

Course Description: IN113 JavaScript. 3 hours credit. Prerequisite: IN112 HTML or equivalent experience. This course will enable the student to develop Web applications using the JavaScript Programming language.

Course Relevance: Private and public organizations have a need for Web-based computer programming development skills. As e-commerce becomes more prevalent, Web-based programming skills are becoming critical for business survival.

Required Materials:

Textbook: Shelly, G. (2001). *JavaScript Complete Concepts and Techniques 2nd Ed.* Boston, MA: Course Technology. (ISBN: 0-7895-6233-2)

Textbook: Negrino, T. (2004). *JavaScript for the World Wide Web 5th ed.* Berkeley, CA: Peachpit Press. (ISBN: 0-321-19439-X)

Supplemental Materials:

USB Flash Drive: 64 MB minimum

Learning Outcomes:

The intention is for the student to be able to:

1. Develop JavaScript applications capable of running on the World Wide Web.

Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course:

Through the student involvement in this course, he/she will develop his/her ability in the following primary PACT skill areas:

1. Problem solving
 - Through problem solving exercises, the student will develop the skill to identify and resolve technical problems.
2. Field-related technology
 - By developing examples, exercises, and applications, the student will improve his or her understanding of JavaScript.

Secondary skills (developed but not documented):

Computer literacy
Reading
Writing
Listening
Internet use
Teamwork

Major Summative Assessment Task(s):

These learning outcomes and the primary Learning PACT skills will be demonstrated by:

1. Completing a team project to demonstrate a fundamental understanding of JavaScript design and programming
2. Completing an individual project to apply JavaScript programming concepts to a personal or work related problem or completing a final exam covering JavaScript application concepts

Course Content:

- I. Themes - Key recurring concepts that run throughout the course:
 - A. Translation of program design
 - B. Problem discovery, analysis and documentation process
- II. Issues - Key issues that will be addressed in this course: areas of conflict that must be understood in order to achieve the intended outcome:
 - A. Understanding the conflict between the ideal design and the development of a practical application
- III. Concepts - Key Concepts that must be understood to address the issues:
 - A. The translation of solutions into computer programs
 - B. The role of teams in project development
 - C. The importance of algorithmic thinking in problem analysis and object-oriented programming development
- IV. Skills / Competencies - Actions that are essential to achieve the course outcomes:
 - A. Integrate JavaScript and HTML
 - B. Create Pop-Up Windows
 - C. Validate Forms
 - D. Display and manipulate graphics
 - E. Create and use user interface elements
 - F. Demonstrate the use of objects and methods
 - G. Develop scripts using problem-solving techniques
 - H. Develop algorithms through the process of top-down, stepwise refinement

Learning Units:

- I. Introduction to JavaScript
- II. JavaScript language basics
- III. Working with DHTML
- IV. Integrating JavaScript and HTML
- V. JavaScript image basics
- VI. Working with browser windows

VII. Form handling

Learning Activities:

Independent and collaborative learning activities will be assigned within and outside the college classroom to assist the student in achieving the intended learning outcomes. Learning activities will involve the student in the creation and design of applications independently or in collaboration with others. This will include various aspects of design, technology, and project management. Homework, small group projects, readings, computer exercises, and research assignments will prepare the student to be equipped to successfully complete the major assessment tasks.

Grade Determination:

The student will be graded on satisfactory completion of major assessment tasks, attendance, participation and the timely completion of class exercises and tutorials.