DEPT. CSCI  COURSE NUMBER: 2135

NUMBER OF CREDITS: 3

COURSE TITLE: Advanced Web Techniques

CATALOG DESCRIPTION: Introduces advanced web programming techniques using JavaScript. JavaScript is used in Web pages to validate forms, to enhance the design, to communicate with the server and to create interactive Web pages. The scripting capabilities of JavaScript result in the construction of dynamic Web pages as is expected in today's Internet standards. Prior JavaScript programming experience is not required. Prerequisite: CSCI2215 Web Programming.

AUDIENCE: Former or current programming students, career-engaged computer programmers, web designers and IT Workplace employees.

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)
Area: by meeting the following competencies:
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PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: CSCI2215 Web Programming

LENGTH OF COURSE: 3 semester credits

THIS COURSE IS USUALLY OFFERED:
Likely offered by student petition for Independent Study

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: The academic objectives of this course are: The student will achieve the knowledge and skill needed in the area of emerging programming trends required to code in a scripting language

2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through: The student will better understand high-level data structures and object-oriented programming used in the logic of shared library scripts
COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:

The student will demonstrate appropriate communication techniques in working with the internet and peers to complete assignments.

3) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:

The student will gain self-awareness regarding their feelings towards people of different cultures, value systems and socioeconomic status.

TOPICS TO BE COVERED:
Variables, Input, and Output
Random Numbers and the if Statement
For and while Loops
Object-Based Programming
Using the Other Form Elements
Dynamic Output
Image Swapping and Lookup
Dynamic HTML
Animation

LIST OF EXPECTED COURSE OUTCOMES
gain an understanding of scripting and the contributions of scripting languages
design and write programs in JavaScript that use Variables, Arrays, Conditions and Loops
implement Object Oriented concepts, Functions and Methods
appreciate the built-in objects of JavaScript
interact with string manipulation operators and expressions
practice concepts such as choice, recursion, iteration, types, object-orientation,
    linear and non-linear data structures
trace programs written in JavaScript

LEARNING/TEACHING TECHNIQUES used in the course are:
X Collaborative Learning
X Problem Solving
☐ Student Presentations
☐ Interactive Lectures
☐ Creative Projects
☐ Individual Coaching
X Lecture
☐ Demonstrations
☐ Other (describe below)
☐ Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
X Reading
X Tests
X Individual Projects
☐ Oral Presentations
☐ Worksheets
☐ Collaborative Projects
X Textbook Problems
☐ Papers
☐ Portfolio
☐ Group Problems
☐ Term Paper
☐ Other (describe below)
EXPECTED STUDENT LEARNING OUTCOMES: Upon successful completion of this course the student will be able to:

- The student will gain an understanding of scripting and the contributions of scripting languages
- The student will design and write programs in JavaScript that use Variables, Arrays, Conditions and Loops
- The student will implement Object Oriented concepts, Functions and Methods
- The student will appreciate the built-in objects of JavaScript
- The student will interact with string manipulation operators and expressions
- The student will practice concepts such as choice, recursion, iteration, types, object-orientation, linear and non-linear data structures
- The student will trace programs written in JavaScript

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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