RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

IDMX 244 JAVASCRIPT

I. Basic Course Information

A. Course Number and Title:	IDMX 244 - JavaScript
B. New or Modified Course:	Modified
C. Date of Proposal:	Semester: Spring Year: 2021
D. Effective Term:	**Fall 2021**
E. Sponsoring Department:	Arts & Design
F. Semester Credit Hours:	3
G. Weekly Contact Hours:	Lecture: 2 Laboratory: 2 Out of class student work per week: 5
H. Prerequisites:	Computer Concepts and Programming – CSIT 103 **OR** Foundations of Computer Science – CSIT 105

I. Laboratory Fees: None

J. Name and Telephone Number or E-Mail Address of Department Chair and Divisional Dean at time of approval:

Vandana Nadkarni, vandana.nadkarni@raritanval.edu and
John Sichel, john.sichel@raritanval.edu (Department Chairs);
Patrice Marks, Patrice.marks@raritanval.edu (Divisional Dean)

II. Catalog Description

Prerequisite: CSIT 103 – Computer Concepts and Programming or CSIT 105 – Foundations of Computer Science. Modern JavaScript is the most widely used programming language in the world. While JavaScript was initially created to be the scripting language for web browsers, over time developers started applying JavaScript for a number of other purposes. The topics covered in the course include core language concepts, how to stay current with evolving language specifications, writing JavaScript for both the client-side (web) and server-side programs such as NodeJS, and using NPM, the world's largest software registry. This course will also cover distributed development

is using industry-standard version control along with modern cloud services, such as GitHub.

III. Statement of Course Need

A. JavaScript (in the ECMAScript family of languages) is a popular Scripting language used in Industry to design and implement dynamic web pages. Knowledge of this subject matter is essential to those students pursuing programs in Interface Design, Web Development, and related fields.
B. This course does have a lab component. Students are required to use the software in the Computer labs or on their personal devices in order to complete their assignments.
C. This course generally transfers as a Computer Science Elective

IV. Place of Course in College Curriculum

A. Free Elective
B. This course meets a program requirement for.
    a. Interface Design & Web Development A.A.S.
    b. Interface Design & Web Development A.S.
    c. Interface Design & Web Development Certificate
C. Programming Elective in the Computer and Programming Electives List
D. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

A. Introduction to JavaScript in the Browser and in NodeJS
B. Data types and variables
C. Decisions and loops
D. Functions and scope
E. Objects and Arrays
F. String Manipulation
G. Client-side Scripting for the browser
H. Server-side Scripting
I. Handling Events
J. Access to APIs and JSON for Data Delivery
K. Modules
L. Asynchronous Programming
M. NPM (aka Node Package Manager)
N. Modern Build Tools and Processes
O. Automatic Testing Tools
P. Use of version control software and cloud services

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

At the completion of the course, students will be able to:

1. Solve information processing problems by using the JavaScript programming language to produce well designed computer programs (GE-NJ 4)

B. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. Design and implement JavaScript programs that incorporate basic features of the language.
    - (e.g. objects, arrays, control structures, functions, building interactive elements, modules and import/export statements, etc.).
2. Design and implement JavaScript programs that incorporate advanced features of the language and its ecosystem.
    - (e.g. new syntax, design frameworks, back-end services, compilation and bundling tools, automated testing, etc.).
3. Use version control to manage software development.
4. Finding and using services for distributed development.

C. Assessment Instruments

1. demonstrations
2. computer programs

VII. Grade Determinants

A. Lab Projects
B. Homework Assignments
C. Quizzes
D. Final Exam
E. Final Project

The primary formats, modes, and methods for teaching and learning that may be used in the course:

A. lecture/discussion
B. small-group work
C. computer-assisted instruction
D. laboratory
E. student collaboration
F. independent study

VIII. Texts and Materials

With JavaScript's yearly update schedule, this class is best taught with Open Educational Resources and with the official specifications outlined on the following webpages:

- The TC39 group (JavaScript's standards-developing body):
  - https://tc39.es/
  - https://www.ecma-international.org/technical-committees/tc39/
  - https://github.com/tc39
- The Mozilla Foundation's JavaScript Reference:
  - https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference

IX. Resources

A. Computer lab or personal computer with reliable Internet connectivity.

X. Honors Options

N/A