**Chiang Mai University**

**Bachelor of Engineering (Information Systems & Network Engineering)**

**Faculty of Engineering**

**1st Semester / Academic Year 2024**

**1. Course:** 269200 Web Programming Language

Credits: 3(2-3-4)

 **Prerequisite**: 261102

**Course Description:**

Principle of web application, Web application workflow, Languages for web programming, Database-driven Website, Authentication and session, Testing and debugging

**2. Instructor:** Dr. Ken Cosh (Full Time Instructor)

**3. Course Objectives:**

On completing this course, students will be able to:-

3.1 Understand how the web works and how the different languages work together to create websites

3.2 be comfortable with HTML, CSS, PHP, MySQL, Javascript, Jquery, HTML5, Node.js, Express.js, MongoDB, React, Firebase.

**4. References:**

**5. Course Outline:**

|  |  |
| --- | --- |
| Week | Content |
| 1 | Introduction to the Web* Basic HTML Tags
* HTML Tables
* Images and HTML Attributes
* Hypertext & Links
* HTML Comments
 |
| 2 | Cascading Style Sheets I* Why Use CSS?
* Introducing CSS
* Selectors
* <SPAN> & <DIV>
* Where to CSS?
* More on Selectors
* CSS Properties
 |
| 3 | Cascading Style Sheets II* The Position Property
* Float & Clear
* Borders, Margins & Padding
* CSS Examples
 |
| 4 | Introducing JavaScript* Variables
* Operators
* Control Statements
* Arrays
* Functions
* getElementById()
* Form Validation
 |
| 5 | JavaScript #2* Objects
* Classes
* JSON
 |
| 6 | JavaScript #3* Handling Events with JavaScript
* JavaScript Libraries – Jquery
 |
| 7 | JavaScript and the DOM* The Document Object Model
* Manipulating the DOM
* Navigating the DOM
 |
| 8 | Asynchronous JavaScript & APIs* Introducing AJAX
* JQuery and AJAX
* API
 |
| 9 | Introducing Node.js* PHP vs Node.js
* Setting up Node.js
* Events in Node.js
* Node Package Manager (NPM)
* Basic Routing with Express.js
 |
| 10 | Introducing ReactJS* Set Up
* JSX
* Components
* props
* Event Handlers
 |
| 11 | Managing State in React* useState
* useContext
* localStorage
 |
| 12 | React Part 3* useEffect
* APIs
* Firebase
* A To Do List
 |
| 13 | React Part 4* React Router
 |
| 14 | Project |
| 15 | Project |

**6. Course Activities**

 This course will involve;

 Lectures

Assignments

 Reading the course material outside of class

**7. Course Assessment:**

1. Assignments - 50%

2. Midterm exam - 20%

3. Final exam - 30%

**8. Course Evaluation:**

1. To be able to take the exam students must attend class at least 80% of the time.
2. Plagiarism is not acceptable, any students caught plagiarising will receive 0.
3. The evaluation is based on the grading scale given in the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| Grade | Letter Grade | Score (four-point scale) | Transcript Legend |
| 80-100 | A | 4 | Excellent |
| 75-79 | B+ | 3.5 | Very Good |
| 70-74 | B | 3 | Good |
| 65-69 | C+ | 2.5 | Quite Good |
| 60-64 | C | 2 | Moderate |
| 55-59 | D+ | 1.5 | Weak |
| 50-54 | D | 1 | Very Weak |
| 0-49 | F | 0 | Fail |

4. The following “letter grades” may also be given:

 “I” Incomplete

 “W” Withdraw

 “IP” Course work in progress