



## CS545: Web Application Development 1

Rujuan Xing, M.S.

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# Course Overview

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Theme I: React Basics - Components, States, Props - Life is structured in layers						
<b>Week 1</b>	JavaScript ES6 Overview	React Intro	TypeScript, Components,event, useState	Components, useRef, CSS	Workshop	Communication between components
Theme II: Deeper into React - The Nature of Life is to Grow						
<b>Week 2</b>	useEffect, Custom Hook, VDom Diffing,	Workshop	Review	Midterm	Component Driven Development	Workshop
Theme III: Routing, Axios - Purification Leads to Progress						
<b>Week 3</b>	Fetch, Axios	Workshop	React Router	React Router	useCallback, useMemo, useReducer	Review
Theme IV: Integrating all parts together - The Whole is Greater than the Sum of the Parts						
<b>Week 4</b>	Project	Project	Project Presentation	Final Exam		

# CS545

## Web Application Development I

**The evolution of the individual and the evolution of the environment are naturally interdependent**

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### COURSE GOAL

This course aims to equip students with a comprehensive understanding of React. By the course's end, students will grasp core concepts such as components, state, props, functional components, hooks, and the virtual DOM, enabling them to create reusable UI components. The course will emphasize best practices, coding standards, and project management, preparing students to become proficient React developers and adapt to the evolving React ecosystem.

### Course Objectives

React is one of the most loved and popular JS libraries for building front-end web applications. Students will learn React and its vital concepts that help students succeed in the IT industry by working on a project and various applications in class. Topics include:

- *Explore modern JavaScript (ES6)*
- *Develop UI with declarative JSX*
- *Create components, decompose UI*
- *Learn how to manage state*
- *Study routing in React Applications*
- *Connect React App with the backend application to create the full software system*

# Evaluation Criteria

Midterm Exam	40%
Final Exam	40%
Project	10%
Homework	10%

## Grading scale

A	92 - 100
A-	88 - 91
B+	84 - 87
B	79 - 83
B-	75 - 78
C+	71 - 74
C	66-70
C-	62-65
NC	0 - 61

## Contact Info

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# Class Attendance Requirements

- 1. Class Hours (including 15 minutes meditation before lunch and 20 minutes meditation after class):**
  - a. Morning Session: 10:00 AM – 12:30 PM, Monday – Saturday
  - b. Afternoon Session: 1:30 PM – 3:15 PM, Monday – Friday
- 2. Attendance Obligation:**
  - a. In-person students are required to attend all classes, except under exceptional circumstances.
  - b. If you cannot attend a class, you must seek my approval by sending an explanatory email.
- 3. Missed Classes:**
  - a. Missing three classes without prior approval may warrant consideration of withdrawing from the course.
- 4. Homework Submission:**
  - a. Failure to submit your first homework solution three times before the deadline (10:00 PM) will result in the loss of all related homework grades.
- 5. Punctuality:**
  - a. Please arrive on time to prevent any disruptions for fellow students.
- 6. Importance of Attendance:**
  - a. Attendance is mandatory, as all class components (lectures, discussions, Q&A, labs) contribute to the learning process.
- 7. Excused Absences:**
  - a. Excused absences are typically granted for illness or family emergencies.
- 8. Advance Notice:**
  - a. If you anticipate missing a class, please communicate with me beforehand.
- 9. First Lesson Importance:**
  - a. Attendance is particularly crucial for the first lesson of each course. Students not present on the first morning (excluding valid reasons like illness or family emergencies) may be advised to withdraw.
- 10. Unexcused Absences:**
  - a. Unexcused absences may result in an NC (No Credit) grade for the entire class.

Your active participation and attendance are key to your successful learning experience. If you have any questions or concerns, please don't hesitate to reach out to me.