Course Syllabus Part I
WEB 201 Internet Systems Architecture

3 Credit Hours

Course Description
This course examines internet terminology, how web systems are designed, how data flows across the web, and what is involved in building a website. Topics include overall design of the internet, operating systems, command line interfaces, cloud computing, serverless architectures, security, and web accessibility.

Course Prerequisites
None

Course Skills
Students will exercise the following program skills during this course:

- Use information security techniques to protect the data used in web applications.
- Critique web application design elements to promote alignment with contemporary style and best practices.
- Research stakeholder requirements for web applications, including documentation and coordination of specifications.
- Assess project feasibility to ensure the development meets both technical and resource constraints.
- Make and defend recommendations on the viability of web services to meet the stakeholder requirements.
- Demonstrate effective communication with all stakeholders, including clear and concise written and oral communications to technical and non-technical audiences.

Course Objectives
Students who successfully complete this course should be able to:

- Describe the components of web development hardware and their histories
- Compare the affordances of web development software
- Explain how the internet works to technical and non-technical audiences
- Apply industry best practices to prevent web-based security threats
- Evaluate the use and effectiveness of cloud-based architectures
- Explore serverless architectures and their role in modern web development
- Defend the use of CLI commands in a modern era

Grading Scale

93 – 100% = A	87 – 89% = B+	77 – 79% = C+	67 – 69% = D+
90 – 92% = A-	83 – 86% = B	73 – 76% = C	63 – 66% = D
	80 – 82% = B-	70 – 72% = C-	60 – 62% = D-
			0 – 59% = F

Topic Outline

I. History of the Internet
   A. Early Tools and Current Uses
   B. Birth of the World Wide Web
   C. .com boom
   D. The Future of the Web

II. OSI Model
   A. Application Layer
   B. Presentation Layer
   C. Session Layer
   D. Transport Layer
   E. Network Layer
   F. Data Link Layer
   G. Physical Layer
   H. Other Models

III. Architectures
   A. Operating Systems and the CLI
   B. Intranet
   C. Cloud Computing
   D. Serverless Architectures

IV. Security and Encryption
   A. Common Vulnerabilities
   B. Prevention Tactics
   C. Developer Checklist

V. Web Accessibility
   A. Accessibility Best Practices
   B. Accessibility Validation Tools