JÖNKÖPING UNIVERSITY
School of Engineering

COURSE SYLLABUS

Web Development, 7.5 credits

Webbutveckling, 7.5 högskolepoäng

Course Code:	T1WSSQ	Education Cycle:	First-cycle level
Confirmed:	Sep 01, 2025	Disciplinary domain:	Technology
Valid From:	Aug 31, 2026	Subject group:	Computer Technology
		Specialised in:	G1F First cycle, has less than 60 credits in first-cycle course/s as entry requirements
		Main field of study:	Informatics, Computer Engineering

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and understanding

- display knowledge of fundamental web technologies (HTTP, HTTPS, HTML, CSS)
- display knowledge of technologies used in the construction of web applications (database access, backend, frontend, session management)

Skills and abilities

- demonstrate the ability to construct web pages using HTML and CSS
- display the ability to use JavaScript to manipulate the Document Object Model (DOM)
- demonstrate the ability to construct database-backed web applications
- display the ability to enable communication between web systems using REST/JSON
- display the ability to configure containers for development, testing, and deployment

Judgement and approach

- demonstrate the ability to evaluate the security of web applications.

Content

The course aims to convey essential web technology concepts and techniques. It starts with an introduction to HTTP, HTML, and CSS, along with JavaScript and how to use the Document Object Model (DOM) to modify a web page's content dynamically on the client side. This portion also covers certain client-side libraries and APIs.

The course then focuses on server-side development, specifically using Node.js and associated frameworks. Students will learn to construct database-backed backend solutions that communicate with front-end web pages through REST APIs. The course addresses security considerations throughout, both on the client and server sides. Additionally, the course includes using containers to support the development, testing, and deployment cycles of web applications.

The course includes the following topics:

- Client-server communication and HTTP
- HTML, CSS and CSS frameworks
- JavaScript and the Document Object Model (DOM)
- Client APIs and libraries,
- Architecture and REST APIs
- Containers for web development
- Backend development using Node.js and Node Package Manager (NPM)

Type of instruction

Tuition will consist of lectures, workshops, seminars, lab work, and project work.

Language of instruction is English.

Entry requirements

General entry requirements and taken courses Object-oriented Programming, 7,5 credits, and Databases, 7,5 credits or the equivalent.

Examination and grades

The course is graded 5, 4, 3 or U.

The final grade for the course is based upon a balanced set of assessments. The final grade will only be issued after satisfactory completion of all assessments.

Registration of examination:

Name of the Test	Value	Grading
Assignment	4 credits	5/4/3/U
Examination	2.5 credits	5/4/3/U
Laboratory	1 credit	G/U

Course literature

Please note that changes may be made to the reading list up until eight weeks before the start of the course.

Title: \ *Introduction to HTTP
* Author: Launch School
https://launchschool.com/books/http

Title: HTML & CSS
https://marksheet.io/

Title: \ *Eloquent JavaScript, 3rd edition
* Author: Marijn Haverbeke
https://eloquentjavascript.net/

Title: Web Development with Node & Express , 2nd edition
Author: Ethan Brown
Publisher:O'Reilly, 2020
ISBN: 978-1-492-05351-4