

## COURSE SYLLABUS

### Full-Stack Web Development, 7.5 credits

*Full-Stack webbutveckling, 7.5 högskolepoäng*

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Course Code:	TFWK17	Education Cycle:	First-cycle level
Confirmed:	Sep 01, 2025	Disciplinary domain:	Technology
Valid From:	Jan 18, 2027	Subject group:	Informatics/Computer and Systems Sciences
		Specialised in:	G1F First cycle, has less than 60 credits in first-cycle course/s as entry requirements
		Main field of study:	Informatics

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### Intended Learning Outcomes (ILO)

On completion of the course the student shall:

#### Knowledge and understanding

- display knowledge of the fundamentals of HTTP and networking
- display knowledge of authentication and authorization in web applications
- demonstrate comprehension of developing a full-stack web application in Node.js, connected to a database and exposing a RESTful API

#### Skills and abilities

- demonstrate the ability to develop a full-stack web application
- demonstrate the ability to create a backend system in Node.js that exposes a RESTful API
- demonstrate the ability to create a database that supports CRUD operations and connects to the backend
- demonstrate the ability to create a deployment using containerization

#### Judgement and approach

- demonstrate the ability to suggest and motivate a full-stack web application setup
- demonstrate the ability to evaluate the security of web applications

### Content

The course teaches students how to expand their front-end development skills into full-stack web development by learning about the server-side aspects of web application. Students will learn how to use Node.js to develop RESTful APIs, manage server-side logic, and connect to an SQL database. While developing, students learn about security perspective of different web application components. At the end of the course, students will be able to deploy a working full-stack web application, including front-end, backend, and database.

The course includes the following elements:

- Learn about the fundamentals of HTTP and networking
- Use Node.js to create a backend system
- Develop and work with RESTful APIs
- Learn about the basics of SQL-databases and CRUD operations
- Work with authentication and authorization
- Integrate the backend with a front-end application
- Using containerization like Docker to deploy their web application

## Type of instruction

Lectures, workshops, assignments, and project work.

Language of instruction is English.

## Entry requirements

General entry requirements and taken course Front-end Application Development 7,5 credits (or the equivalent).

## Examination and grades

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

Registration of examination:

Name of the Test	Value	Grading
Examination <sup>1</sup>	5 credits	5/4/3/U
Assignment	2.5 credits	G/U

<sup>1</sup>Determines the final grade of the course, which is issued only when all course units have been passed.

## Course literature

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