

## Webdevelopment (C003779)

Course size (nominal values; actual values may depend on programme)

Credits	6.0	Study time	180 h	Contact hrs	60.0 h
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Course offerings and teaching methods in academic year 2018-2019

A (semester 2)	Dutch	lecture	30.0 h
		practicum	30.0 h

Lecturers in academic year 2018-2019

Verborgh, Ruben	TW06	lecturer-in-charge
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Offered in the following programmes in 2018-2019

<a href="#">Bachelor of Science in Computer Science</a>	crdts	offering
	6	A

Teaching languages

Dutch

Keywords

Web, Web technology, Web applications, Web APIs, REST, Semantic Web, Linked Data, metadata, content networks, video, standardization

Position of the course

Through this course, students learn the basic principles and architecture of the Web, and they study the impact of design decisions on a low level on Web applications at a large scale. In addition to these transferrable skills, they gain experience with current Web technologies and infrastructure.

Contents

- 1 Architecture, protocols, and standards of the Web
- 2 Design and implementation of Web APIs
- 3 Metadata and semantics
- 4 The Semantic Web and Linked Data
- 5 Scalability of data publication on the Web
- 6 Video in the Web
- 7 Content networks
- 8 Concrete Web applications and case studies

Initial competences

- basic knowledge of HTML and CSS
- basic knowledge of communication networks (in particular TCP and DNS)
- programming in JavaScript

Final competences

- 1 Positioning the Web's societal role and technological contribution.
- 2 Knowing the architecture of the Web.
- 3 Knowing the basic principles of Web APIs.
- 4 Understanding the mechanisms of HTTP.
- 5 Building a dynamic Web application.
- 6 Deploying a Web application to a server.
- 7 Implementing a Web API.
- 8 Consuming a Web API.
- 9 Argue the necessity of semantics in data and metadata.
- 10 Applying the basic technologies of the Semantic Web.
- 11 Publishing machine-interpretable data on the Web.
- 12 Understanding how Web video works.
- 13 Arguing the necessity and operation of content networks.

#### Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

#### Conditions for exam contract

This course unit cannot be taken via an exam contract

#### Teaching methods

Guided self-study, group work, lecture, practicum

#### Learning materials and price

- interactive Web slides with discussion opportunities
- PDF slides through Minerva
- online video and documents

#### References

#### Course content-related study coaching

- contact with the lecturers (through email and in person after appointment)
- supervised practical sessions

#### Evaluation methods

end-of-term evaluation and continuous assessment

#### Examination methods in case of periodic evaluation during the first examination period

Oral examination

#### Examination methods in case of periodic evaluation during the second examination period

Oral examination

#### Examination methods in case of permanent evaluation

Assignment, peer assessment, report

#### Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible in modified form

#### Extra information on the examination methods

- Non-periodical evaluation: practical sessions in groups

#### Calculation of the examination mark

The global score is weighed as follows: examination: 10/20; practical sessions: 10/20, on the condition that students obtain at least 7/20 for both components individually. In case the score for one or both components is below 7/20, the global score equals the lowest score.

Practical sessions are performed in groups. As a rule, the result for all group members is the same, except for cases where there is a clear difference in effort of different members. The deadlines need to be respected; handing in too late, or not at all, will lead to a grade of 0/20 for that specific practical session. In case a student does not pass the practical sessions during the first opportunity (<10/20), the student can receive a new individual assignment as a second opportunity.

#### Facilities for Working Students

Possibility to perform an individualized version of the practical sessions, conditional on a timely notification at the start of the semester.