## Module title
Building Modern Web Applications & Services using Node.js and React JS

<table>
<thead>
<tr>
<th>Module code</th>
<th>Level</th>
<th>ECTS credits</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tba.</td>
<td>Bachelor (B.Sc.)</td>
<td>5</td>
<td>3 weeks block course + virtual lectures</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Module instructor</th>
<th>Lecture type</th>
<th>Prerequisite(s)</th>
<th>Grading</th>
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<tbody>
<tr>
<td>Jussi Koistinen, Savonia University of Applied Sciences, Finland</td>
<td>Lectures + Guided Lab Sessions</td>
<td>Basic programming ability, basic skills of HTML, Javascript, CSS and databases</td>
<td>Weekly assignments + final project</td>
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### Objectives
This course will introduce the principles, practices and tools for modern web applications and services using the node.js, jQuery and React JS ecosystems.

On completion of the course the students will be able to:
- **Knowledge & Understanding:** Understand the structure and patterns required to implement a robust web application & service. In particular, apply these principles to the node.js, jQuery and React JS ecosystems.
- **Skills & Abilities:** Implement a node.js web application and REST service using modern (ES6) features, including appropriate persistence (database) layer and React JS and jQuery client layer.

The course will consist mix of lectures and guided labs (in a computer lab).

### Content
- Node.js principles and practices
- Developing node.js applications with MySQL database
- Implementing web applications with node.js template engines
- Introduction to front end development
- Developing web applications with jQuery and node.js
- React JS principles and practices

### Textbook/teaching material
- **Node.js in Action, Second Edition,** Alex Young, Bradley Meck, and Mike Cantelon, Manning, 2017
- **Node.js 8 the right way:** practical, server-side JavaScript that scales, Pragmatic Programmers, Wilson, Jim R., 2018
- **Learning React,** Addison-Wesley, Chinnathambi, Kirupa, 2017
- **JavaScript & jQuery:** interactive front-end web development, John Wiley & Sons, Jon Duckett, 2014
- **Course notes**

Note: this is not the official course descriptor according to the “Studien- und Prüfungsordnung” (SPO)