



POLYTECHNIC OF MEĐIMURJE IN ČAKOVEC

COURSE SYLLABUS

ACADEMIC YEAR: 2020/2021

1. GENERAL COURSE INFORMATION

| | | | | |
|--------------------------------|--|--|--|----|
| 1.1 Course name | Web design | | | |
| 1.2 Study program/s | Undergraduate professional study programme in Computer Science | | | |
| 1.3 Course status (O,E) | elective | 1.6 Mode of instruction (number of hours) | Lectures | 15 |
| 1.4 Course code | | | Exercises | 45 |
| 1.5 Course abbreviation | IWS | | Seminars | |
| 1.6 Semester | IV | | E-learning | |
| 1.7 ECTS | 4 | 1.7 Place and time of instruction | Premises of the Polytechnic of Međimurje in Čakovec, according to the schedule published on the website of the Polytechnic | |

2. TEACHING STAFF

| | | | |
|---------------------------------------|--------------------|----------------|-----------------|
| 2.1 Course leader/s-title | Sanja Brekalo, PhD | contact | sbrekalo@mev.hr |
| | | contact | |
| 2.2 Assistant/s- title | | contact | |
| | | contact | |
| 2.3 Instruction held by- title | | contact | |

3. COURSE DESCRIPTION

| | | | | | | | | | | |
|--------------------------------|--|------------------------|---|------------------|--|--------------------|---|------------------------|--|------------|
| 3.1 Course goals | After completing the course, the student will be able to apply client web technologies and create a simple website. Knowledge in the field of web technologies is acquired and the student is trained to perform a web creation tasks independently. | | | | | | | | | |
| 3.2 Prerequisites | To complete the course and pass the exam, it is necessary to pass the course Programming | | | | | | | | | |
| 3.3 Course outcomes | After successfully completing the course, students will be able to: I1 - Create semantic web pages using different HTML tags and HTML5 design guidelines I2 - Design a web page using CSS selectors, properties and values, positioning techniques and editing HTML elements I3 - Apply responsive design to the website I4 - Create interactive tasks and web pages using JavaScript I5 - Create web pages independently using client web technologies | | | | | | | | | |
| 3.4 Course content | The course presents content related to the creation of web pages using client web technologies. The contents are processed from the aspect of programming and application of scripting and programming technologies. The teaching units present content related to HTML, CSS and JavaScript. Special emphasis is placed on HTML5 elements, CSS3 and ES6 JavaScript. | | | | | | | | | |
| 3.5 Types of coursework | x | Lectures | x | Exercises | | Blended e-learning | x | Individual activities | | Laboratory |
| | | Seminars and workshops | x | Distant learning | | Field classes | x | Multimedia and network | | Mentorship |
| | | Other | | | | | | | | |

| 3.6 Language of instruction | Croatian/English | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|------------------|-----------------|-------------------|----------------|----------------------------|--------------------------------------|-----------|--------|-------------------------------|--|--|------------|----|------------|----------------|-----------------|-----------------|-------------------------|-------|-----------|----------------|-----|----|----------------|-----|----|--|--|--|--------------|-----|----|---------------|-------------|------------|--|----|--|---|----|-----------|--|--|--|----|----|----|-----------|--|--|--|----|----|----|---------------------|--|--|--|--|--|----|--------------|--|--|--|--|--|--|
| 3.7 Monitoring students' work (enter the number of ECTS credits for each activity so that the total number of ECTS credits is equal to the total ECTS value of the course, 1 ECTS = 30 hours) | 2 | Class attendance | | Seminars | | Essay | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Class activity | | Project | | Report/paper | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | Midterm exams | 1 | Practical task | | Continuous knowledge check | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Written exam | | Experimental work | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Oral exam | | Research | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.8 Assessment and evaluation of students' work during classes and at the final exam | <table border="1" data-bbox="603 595 1326 931"> <thead> <tr> <th data-bbox="603 595 948 627">Activity specification</th> <th data-bbox="954 595 1139 627">Percent %</th> <th data-bbox="1145 595 1326 627">Points</th> </tr> </thead> <tbody> <tr> <td colspan="3" data-bbox="603 636 1326 667" style="text-align: center;">Assessment during instruction</td> </tr> <tr> <td data-bbox="603 667 948 698">Attendance</td> <td data-bbox="954 667 1139 698">5%</td> <td data-bbox="1145 667 1326 698">5</td> </tr> <tr> <td data-bbox="603 698 948 730">Class activity</td> <td data-bbox="954 698 1139 730">5%</td> <td data-bbox="1145 698 1326 730">5</td> </tr> <tr> <td data-bbox="603 730 948 761">Seminar/ project/ essay</td> <td data-bbox="954 730 1139 761">30%</td> <td data-bbox="1145 730 1326 761">30</td> </tr> <tr> <td data-bbox="603 761 948 792">Midterm exam 1</td> <td data-bbox="954 761 1139 792">30%</td> <td data-bbox="1145 761 1326 792">30</td> </tr> <tr> <td data-bbox="603 792 948 824">Midterm exam 2</td> <td data-bbox="954 792 1139 824">30%</td> <td data-bbox="1145 792 1326 824">30</td> </tr> <tr> <td colspan="3" data-bbox="603 833 1326 878" style="text-align: center;"><i>Exam assessment for the students who failed to fulfil all the obligatory requirements during the semester</i></td> </tr> <tr> <td data-bbox="603 878 948 909">Written exam</td> <td data-bbox="954 878 1139 909">60%</td> <td data-bbox="1145 878 1326 909">60</td> </tr> <tr> <td data-bbox="603 909 948 931">Total:</td> <td data-bbox="954 909 1139 931">100%</td> <td data-bbox="1145 909 1326 931">100</td> </tr> </tbody> </table> | | | | | | Activity specification | Percent % | Points | Assessment during instruction | | | Attendance | 5% | 5 | Class activity | 5% | 5 | Seminar/ project/ essay | 30% | 30 | Midterm exam 1 | 30% | 30 | Midterm exam 2 | 30% | 30 | <i>Exam assessment for the students who failed to fulfil all the obligatory requirements during the semester</i> | | | Written exam | 60% | 60 | Total: | 100% | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity specification | Percent % | Points | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assessment during instruction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Attendance | 5% | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Class activity | 5% | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Seminar/ project/ essay | 30% | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Midterm exam 1 | 30% | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Midterm exam 2 | 30% | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Exam assessment for the students who failed to fulfil all the obligatory requirements during the semester</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Written exam | 60% | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total: | 100% | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.9 Assessment criteria – analysis per learning outcomes | <table border="1" data-bbox="520 1021 1458 1352"> <thead> <tr> <th colspan="7" data-bbox="520 1021 1458 1052" style="text-align: center;">Ways of evaluating learning outcomes</th> </tr> <tr> <th data-bbox="520 1061 663 1106"></th> <th data-bbox="670 1061 813 1106">Attendance</th> <th data-bbox="820 1061 963 1106">Activity</th> <th data-bbox="970 1061 1114 1106">Mid-term exam 1</th> <th data-bbox="1120 1061 1264 1106">Mid-term exam 2</th> <th data-bbox="1270 1061 1414 1106">Practical work</th> <th data-bbox="1420 1061 1458 1106">Total</th> </tr> </thead> <tbody> <tr> <td data-bbox="520 1115 663 1146">Outcome 1</td> <td data-bbox="670 1115 813 1146"></td> <td data-bbox="820 1115 963 1146"></td> <td data-bbox="970 1115 1114 1146">10</td> <td data-bbox="1120 1115 1264 1146"></td> <td data-bbox="1270 1115 1414 1146"></td> <td data-bbox="1420 1115 1458 1146">10</td> </tr> <tr> <td data-bbox="520 1155 663 1187">Outcome 2</td> <td data-bbox="670 1155 813 1187"></td> <td data-bbox="820 1155 963 1187"></td> <td data-bbox="970 1155 1114 1187">10</td> <td data-bbox="1120 1155 1264 1187"></td> <td data-bbox="1270 1155 1414 1187">5</td> <td data-bbox="1420 1155 1458 1187">15</td> </tr> <tr> <td data-bbox="520 1196 663 1227">Outcome 3</td> <td data-bbox="670 1196 813 1227"></td> <td data-bbox="820 1196 963 1227"></td> <td data-bbox="970 1196 1114 1227">10</td> <td data-bbox="1120 1196 1264 1227"></td> <td data-bbox="1270 1196 1414 1227">5</td> <td data-bbox="1420 1196 1458 1227">15</td> </tr> <tr> <td data-bbox="520 1236 663 1267">Outcome 4</td> <td data-bbox="670 1236 813 1267"></td> <td data-bbox="820 1236 963 1267"></td> <td data-bbox="970 1236 1114 1267"></td> <td data-bbox="1120 1236 1264 1267">20</td> <td data-bbox="1270 1236 1414 1267">10</td> <td data-bbox="1420 1236 1458 1267">30</td> </tr> <tr> <td data-bbox="520 1276 663 1308">Outcome 5</td> <td data-bbox="670 1276 813 1308"></td> <td data-bbox="820 1276 963 1308"></td> <td data-bbox="970 1276 1114 1308"></td> <td data-bbox="1120 1276 1264 1308">10</td> <td data-bbox="1270 1276 1414 1308">10</td> <td data-bbox="1420 1276 1458 1308">20</td> </tr> <tr> <td data-bbox="520 1317 663 1348">Outcome not-related</td> <td data-bbox="670 1317 813 1348"></td> <td data-bbox="820 1317 963 1348"></td> <td data-bbox="970 1317 1114 1348"></td> <td data-bbox="1120 1317 1264 1348"></td> <td data-bbox="1270 1317 1414 1348"></td> <td data-bbox="1420 1317 1458 1348">10</td> </tr> <tr> <td data-bbox="520 1357 663 1379">Total</td> <td data-bbox="670 1357 813 1379"></td> <td data-bbox="820 1357 963 1379"></td> <td data-bbox="970 1357 1114 1379"></td> <td data-bbox="1120 1357 1264 1379"></td> <td data-bbox="1270 1357 1414 1379"></td> <td data-bbox="1420 1357 1458 1379"></td> </tr> </tbody> </table> <p data-bbox="520 1366 1458 1424">Grading of outcomes (in order to pass the mid-term exam/exam the student must achieve at least 50% points for each learning outcome)</p> <p data-bbox="520 1433 727 1456">Points Grade</p> <p data-bbox="520 1464 804 1496">89 – 100 excellent (5)</p> <p data-bbox="520 1505 810 1536">76 – 88 very good (4)</p> <p data-bbox="520 1545 753 1576">63 – 75 good (3)</p> <p data-bbox="520 1585 746 1617">50 – 62 pass (2)</p> <p data-bbox="520 1626 727 1657">0 – 49 fail (1)</p> | | | | | | Ways of evaluating learning outcomes | | | | | | | | Attendance | Activity | Mid-term exam 1 | Mid-term exam 2 | Practical work | Total | Outcome 1 | | | 10 | | | 10 | Outcome 2 | | | 10 | | 5 | 15 | Outcome 3 | | | 10 | | 5 | 15 | Outcome 4 | | | | 20 | 10 | 30 | Outcome 5 | | | | 10 | 10 | 20 | Outcome not-related | | | | | | 10 | Total | | | | | | |
| Ways of evaluating learning outcomes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Attendance | Activity | Mid-term exam 1 | Mid-term exam 2 | Practical work | Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Outcome 1 | | | 10 | | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Outcome 2 | | | 10 | | 5 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Outcome 3 | | | 10 | | 5 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Outcome 4 | | | | 20 | 10 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Outcome 5 | | | | 10 | 10 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Outcome not-related | | | | | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.10 Specific features related with taking the course | <p data-bbox="520 1646 1474 1892">If a student collects 50% of the points of each outcome, he / she directly take the exam, provided that he / she have submitted a practical task. A student cannot take the exam if he / she have not submitted a practical task. The practical task is made according to the instructions published on the Merlin system and is submitted by placing it on the Merlin. The practical task is submitted at least 3 days before the exam. During the exam, it is possible to verbally check the knowledge in the preparation of practical task.</p> <p data-bbox="520 1901 1474 1960">If a student does not achieve a sufficient number of points on the midterm exam, he / she cannot take the next midterm exam.</p> <p data-bbox="520 1968 1474 2027">Once achieved points in intermediate exams for each learning outcome are no longer deleted unless the student decides to correct the result for each learning</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|---|---|---|
| | outcome, whereby the points won until then are deleted and newly achieved points for that learning outcome are entered. | |
| 3.11 Students obligations | <p>Full-time students are required to attend at least 70% of the total number of hours of lectures and exercises in order to exercise the right to take the exam. Part-time students are required to attend at least 30% of the total number of hours of lectures and exercises in order to exercise the right to take the exam. If the student has not fulfilled all the obligations set by the course, he is obliged to attend the lectures again and meet the conditions for taking the exam.</p> <p>Attendance can be offset by online tuition, organised webinars and added assignments given by teachers. One lesson lasts 45 minutes, and several hours form a teaching unit. Absence from one teaching unit is counted as one absence. Delays and apologies are recorded separately. In that case, if the student missed more than 50% of classes, and has a justifiable reason/apology, the request should be submitted to the Department Council, which then decides on the justification of student absences with the obligatory opinion of the course leader.</p> | |
| 3.12 Written assignments | | |
| 3.13 Required reading | 1. | Jennifer Robbins, Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics 5th Edition, O'Reilly, 2018. |
| | 2. | |
| | | |
| | | |
| 3.14 Additional reading | 1. | |
| | 2. | |
| | | |
| | | |
| 4 ADDITIONAL COURSE INFORMATION | | |
| 4.1 Quality control | The quality of the program, teaching process, teaching skills and level of mastery of the material will be established by conducting a written evaluation based on questionnaires, and in other standardised ways and in accordance with the by-laws of the Polytechnic of Međimurje in Čakovec. | |
| 4.2 Contact the teacher | Students can contact the teacher during the office hours and during classes, while for short questions and explanations they can contact him/her any day during working hours by coming in person or by landline. It is also possible to ask questions by e-mail, which will be answered in 48 hours at the latest. It is desirable for students to come as often as possible for any possible questions during the teacher's office hours. | |
| 4.3 Information about the course | It is the obligation of each student to be regularly informed about the course. All notifications about the classes or possible postponement of classes will be posted on the bulletin board and on the website of the Polytechnic at least 24 hours in advance. | |
| 4.4 Course contribution to the study program | <p>IS7 Develop programming code in several programming languages using modern methods and tools</p> <p>IS13 Develop applications using an object-oriented paradigm in solving programming tasks</p> <p>IS17 Select the appropriate programming language and technology when solving programming tasks</p> <p>IS16 Develop web and mobile projects, applying advanced technologies and connecting to databases using modern methods and tools</p> | |

5. ANALYSIS OF COURSE TOPICS (the number of hours is equal to the number of lectures and exercises of the course)

| LECTURES | | | | |
|----------|---|--|---|----------------|
| Hours | Topic and description | Method | Learning outcomes | Course outcome |
| | | <ul style="list-style-type: none"> • Direct teaching (lecture, instruction, pp presentation) • Discovery learning (individual, lead, discussion) • Group learning • Case study • Field classes... | | |
| 1. | Introduction to course content, HTML basics, client and server web technologies | Lecture, pp presentation | Distinguish between client and server web technologies | I1 |
| 2. | Using HTML5 elements when creating a web page | Lecture, pp presentation | Distinguish the application of different tags when creating a website | I1 |
| 3. | Introduction to CSS | Lecture, pp presentation | Apply basic CSS syntax | I2 |
| 4. | CSS model box, block and inline elements, units of measure and colour | Lecture, pp presentation | Distinguish elements in HTML and apply units of measurement of set properties | I2 |
| 5. | Elements positioning | Lecture, pp presentation | Distinguish ways of positioning an element in CSS | I2 |
| 6. | Responsive web pages | Lecture, pp presentation | Distinguish ways of creating responsive websites | I3 |
| 7. | Using Bootstrap while creating a responsive design | Lecture, pp presentation | Use Bootstrap when creating a responsive web design | I3 |
| 8. | Midterm exam 1 | | | |
| 9. | Introduction to JavaScript, linking to HTML, basic syntax | Lecture, pp presentation | Explain the role of JavaScript on web pages | I4 |
| 10. | Basic syntax of arrays and objects in JavaScript | Lecture, pp presentation | Apply basic array and object syntax | I4 |
| 11. | Types of events in JavaScript, event propagation through DOM | Lecture, pp presentation | Explain the types of events and their propagation | I4 |
| 12. | Objects in JavaScript | Lecture, pp presentation | Particularize the types of objects in JavaScript | I4 |
| 13. | Prototype inheritance in JS | Lecture, pp presentation | Explain prototypes in JavaScript | I4 |

| 14. | ES6 object syntax | Lecture, pp presentation | Apply ES6 syntax when writing web code | I4 |
|---------------------|--|--|---|----------------|
| 15. | Midterm exam 2 | | | |
| EXERCISES/ SEMINARS | | | | |
| Hours | Topic and description | Method | Learning outcomes | Course outcome |
| | | <ul style="list-style-type: none"> • Direct teaching (lecture, instruction, pp presentation) • Discovery learning (individual, lead, discussion) • Group learning • Case study • Field classes... | | |
| 1. | Basic HTML elements and their application | Lecture, pp presentation | Explain the application of tags in HTML | I1 |
| 2. | Application of HTML elements | Lecture, pp presentation | Apply HTML elements when creating a page | I1 |
| 3. | HTML page structure | Guided assignment, code examples | Apply HTML elements when creating a web page | I1 |
| 4. | HTML5 elements | Lecture, pp presentation | Recognize different HTML elements and their role | I1 |
| 5. | The role of different HTML5 elements in creating a website | Lecture, pp presentation | Explain the role of HTML elements on a web page | I1 |
| 6. | Use of HTML tags | Code examples, guided and independent assignment | Create semantic web pages using different HTML tags and HTML5 design guidelines | I1 |
| 7. | CSS selectors | Lecture, pp presentation | Apply basic CSS syntax | I2 |
| 8. | CSS cascade | Lecture, pp presentation, code examples | Explain the application of cascades | I2 |
| 9. | Application of CSS selectors and cascades | Guided and independent assignment | Design a website using different selectors | I2 |
| 10. | CSS properties of fonts, text, colours, borders, CSS boxes | Lecture, pp presentation, code examples | Apply basic CSS properties | I2 |
| 11. | Application of web fonts | Lecture, pp presentation, code examples | Explain how to apply web fonts | I2 |
| 12. | Assignment | Independent creation of assignment | Design a web page using basic CSS | I2 |

| | | | | |
|-----|--|---|--|--------|
| | | | properties and web fonts | |
| 13. | Positioning elements using <i>position property</i> | Lecture, pp presentation, code examples | Create a page design using positioning with <i>position property</i> | 12 |
| 14. | Positioning elements using float, flexbox, additional CSS properties | Lecture, pp presentation, code examples | Create a page design using positioning with float, flexbox | 12 |
| 15. | Creating page navigation | Guided and independent development | Create page navigation | 12 |
| 16. | Creating responsive websites | Lecture, pp presentation, code examples | Create a responsive website design | 13 |
| 17. | Creating responsive websites | Guided and independent development | Create a responsive website design | 13 |
| 18. | CSS transformations, transitions and animations | Lecture, pp presentation, code examples | Identify CSS3 capabilities when creating a website | 12 |
| 19. | Assignment | Independent development | Design a responsive website | 12, 13 |
| 20. | | | | |
| 21. | | | | |
| 22. | Midterm exam 1 | Individual | Outcome check I1, I2, I3 | |
| 23. | | | | |
| 24. | | | | |
| 25. | Basic JavaScript syntax | Lecture, pp presentation, code examples | Apply basic JavaScript syntax | 14 |
| 26. | Variables, comments, operators, conditional statements | Lecture, pp presentation, code examples | Apply basic JavaScript syntax | 14 |
| 27. | Functions | Lecture, pp presentation, code examples, guided and independent assignments | Use JavaScript functions when solving tasks | 14 |
| 28. | Loops, Arrays | Lecture, pp presentation, code examples | Apply loops and arrays | 14 |
| 29. | Array methods, ES6 array methods | Lecture, pp presentation, code examples | Apply array methods | 14 |
| 30. | Assignments - array | Guided and independent assignments | Apply array methods when solving tasks | 14 |
| 31. | Events in JavaScript, adding events | Lecture, pp presentation, code examples, | Use different approaches to add events | 14 |

| | | | | |
|-----|--|---|--|--------|
| 32. | Managing events and event delegation | Lecture, pp presentation, code examples | Use event management and event delegation | 14 |
| 33. | Assignment - events | Guided and independent assignments | Create an interactive page | 14, 15 |
| 34. | DOM objects | Lecture, pp presentation, code examples | Explain the HTML DOM and how to manage it using JavaScript | 14 |
| 35. | Embedded objects in JavaScript | Lecture, pp presentation, code examples | Use embedded objects when adding interactivity | 14 |
| 36. | Use of embedded objects | Guided and independent assignments | Use embedded objects when adding interactivity | 14 |
| 37. | Techniques for creating new objects, methods and properties of objects | Lecture, pp presentation, code examples | Use objects when creating program code | 14 |
| 38. | Javascript this, prototypes and inheritance, ES6 syntax | Lecture, pp presentation, code examples | Explain the interpretation of the keyword <i>this</i> | 14 |
| 39. | Assignments- objects | Guided and independent assignments | Apply objects when creating an interactive website | 14, 15 |
| 40. | Assignments | Independent development | Create an interactive website | 14, 15 |
| 41. | | | | |
| 42. | | | | |
| 43. | Midterm exam 2 | Individual | Outcome check 15, 16 | |
| 44. | | | | |
| 45. | | | | |