The Web as a Learning Environment 216101

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**Techno-pedagogical advisor:** Mr. Shadi Asaklah as.shadi@gmail.com

**Course URL:** http://moodle.technion.ac.il

**Course dates and structure:** 1.8.16 – 22.8.16, nine sessions, from 9:30 to 12:30, with additional hours of personal advising. The course is based on the studio approach – short lectures, workshops, homework assignments, and students’ presentations.

**Course Objectives:** Familiarity with advanced pedagogical approaches: from theory to practice. Experiencing various methods of online teaching and learning (asynchronous, synchronous, and blended). Discussion research topics at the forefront of contemporary education, including: 21st century skills, mobile and ubiquitous learning, the flipped classroom, MOOCs, augmented worlds, wisdom of the crowds, and citizens science.

**Course requirements:** Full attendance in all classroom sessions; reading of articles as preparation for the lessons; submitting assignments on time; and significant contribution to in-class and online discussions. Grades will be assigned according to the following table:

<table>
<thead>
<tr>
<th>Topic and tools</th>
<th>Assignment</th>
<th>Grade</th>
<th>Submission date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online collaborative writing (Google docs)</td>
<td>1a. Developing an interactive multimedia presentation</td>
<td>20</td>
<td>04.08.16</td>
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<td></td>
<td>1b. Conducting peer-assessment of three presentations</td>
<td>20</td>
<td>08.08.16</td>
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<tr>
<td>Wisdom of the crowds (Augmented World)</td>
<td>2a. Generating an online multimedia question</td>
<td>20</td>
<td>11.08.16</td>
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<tr>
<td></td>
<td>2b. Providing feedback and developing information points</td>
<td>10</td>
<td>13.08.16</td>
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<tr>
<td>Citizens science (Augmented World)</td>
<td>3a. Generating an inquiry question</td>
<td>10</td>
<td>15.08.16</td>
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<td></td>
<td>3b. Collecting data for colleagues</td>
<td>10</td>
<td>17.08.16</td>
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<td></td>
<td>3c. Analyzing data and writing a report</td>
<td>10</td>
<td>22.08.16</td>
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## Timetable

<table>
<thead>
<tr>
<th>Dates</th>
<th>Topics</th>
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| 1 01.08.16 (Mon) | **Lecture:** 21st century skills and reforms in engineering sciences education. Visualizations in science education.  
**Practice:** Small group learning, selecting a scientific or engineering concept/principle for the interactive presentation |
| 2 02.08.16 (Tus) | **Lecture:** Mobile and ubiquitous learning. Online collaborative learning and psychological ownership.  
**Practice:** Developing an interactive presentation (Assignment 1a) |
| 3 04.08.16 (Thu) | **Lecture:** Peer-assessment for promoting meaningful learning.  
**Practice:** Developing an interactive presentation. Submitting assignment 1a |
| Homework    | Conducting peer-assessment of three presentations (Assignment 1b)      |
| 4 08.08.16 (Mon) | **Lecture:** Web 2.0, cloud applications, and learner-generated contents.  
**Practice:** Conducting peer-assessment of three presentations. Submitting assignment 1b |
| 5 09.08.16 (Tus) | **Lecture:** Question development for higher order thinking. Writing proficiency of multiple-choice questions. Introducing AugmentedWorld (AW) platform.  
**Practice:** Generating an online multimedia question in AW (Assignment 2a) |
| 6 11.08.16 (Thu) | **Lecture:** Wisdom of the crowds and citizens science.  
**Practice:** Generating an online multimedia question. Submitting assignment 2a |
| Homework    | Providing feedback and developing information points. Submitting assignment 2b |
| 7 15.08.16 (Mon) | **Lecture:** What is research and how to develop inquiry questions  
**Practice:** Generating an inquiry question. Submitting assignment 3a |
| 8 17.08.16 (Wed) | **Lecture:** Students’ presentation of learning outcomes.  
**Practice:** Collecting data for colleagues. Submitting assignment 3b. |
| 9 22.08.16 (Mon) | **Lecture:** The flipped classroom, MOOCs.  
**Practice:** Analyzing data and writing a report. Submitting assignment 3c. |
References

21st Century Skills

Online discussion groups and peer assessment

Animations and Simulations

Mobile learning
Flipped classroom


MOOC - Massive online Open Course


Kop, R. (2011). The challenges to connectivist learning on open online networks: Learning experiences during a massive open online course. *International Review of Research in Open and Distance Learning, 12*(3).
