1. Annotation

Course Description

The Innovation Workshop (IW) is a one-month full-time “boot camp” MS-level course that unites the entire Skoltech incoming class with faculty and esteemed invited mentors to create the foundational experience in Entrepreneurship and Innovation (E&I) for all. IW is designed to instill a positive “can-do” teamwork attitude in the Skoltech culture, as well as to cultivate the art of prototyping quickly, under pressure, with help from others, and based on whatever resources are at hand here and now.

Experiential inquiry-based learning leads IW student through the entire technology innovation cycle along the three pillars of innovation: (i) Impact (Problem + Feedback), (ii) Novelty of the solution (IP + Prototype + Science), and (iii) Vision for the subsequent iterations (Next Steps + Picture of Success). This work is performed in cross-disciplinary teams operating under time pressure thus creating real life experience of complex innovation project.

This file is the abbreviated version of the IW syllabus that carries only the most technical summary information. Please find the full IW Syllabus in the Files section of your IW Canvas page, as well as the attachment to this submission (the clickable “Upload” URL in the bottom of this document). Students of the IW are strongly recommended to read the full Syllabus as it carries plenty of information necessary to succeed in the IW and in innovation in general.

Course Prerequisites

None. The course is required for all Skoltech Master students. Ideally taken as the very first course at Skoltech.
## 2. Structure and Content

<table>
<thead>
<tr>
<th>Topic</th>
<th>Summary of Topic</th>
<th>Lectures (# of hours)</th>
<th>Seminars (# of hours)</th>
<th>Labs (# of hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1: The Hunch Week</strong></td>
<td>• Opening keynotes&lt;br&gt;• Glue lectures&lt;br&gt;• Quick Success Classes&lt;br&gt;• Ideation training&lt;br&gt;• Elevator Pitch training</td>
<td>6</td>
<td>15</td>
<td>15</td>
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<tr>
<td></td>
<td>see the full IW Syllabus in Canvas (or URL in the bottom of this document) for the detailed explanation of these activities.</td>
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<tr>
<td><strong>Week 2: The Problem Statement Week</strong></td>
<td>• Glue lectures&lt;br&gt;• Brainstorming Session&lt;br&gt;• Project Fair&lt;br&gt;• Speed dating&lt;br&gt;• Mentor work&lt;br&gt;• Team project work&lt;br&gt;• FabLab/lab work&lt;br&gt;• Leadership/teamwork Sessions&lt;br&gt;• Problem statement Session&lt;br&gt;• Prototyping Session&lt;br&gt;• QUICK FAILURE presentation&lt;br&gt;• Peer evaluation (compulsory personal activity)</td>
<td>6</td>
<td>15</td>
<td>15</td>
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</tbody>
</table>

The title (max 35 characters) and the brief description (max 300 characters) of the “Quick Failure” presentation should be submitted by the project team to Canvas by Thursday, September 12 noon. The same applies to the case when the team decided to changes the project after the “Quick Success” feedback. Failure to do so will result in zero midterm grade for the relevant week.

Each student in the IW course will be required to weekly evaluate each of his or her fellow team members for their contribution to the team activities. It is compulsory. The confidential peer evaluation scores, using the Peer Evaluation Form, will need to be submitted by each student before midnight on Saturday following the Friday Presentation. Failure to submit a peer evaluation by Saturday 23:00 will lead to 0 (zero)% score for the corresponding week.
### Week 3: The Prototype Week

- Glue lectures
- Team project work
- FabLab/lab work
- Mentor work
- EQ Session
- End User feedback Session
- Project plan&vision Session
- DRY RUN presentation
- Peer evaluation (compulsory personal activity)

see the full IW Syllabus in Canvas (or URL in the bottom of this document) for the detailed explanation of these activities.

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<tr>
<td>6</td>
<td>15</td>
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### Week 4: The Iteration Week

- Team project work
- Mentor work
- FabLab/lab work
- Keynote lectures
- THE FINAL CUT presentation
- Peer evaluation (compulsory personal activity)

see the full IW Syllabus in Canvas (or URL in the bottom of this document) for the detailed explanation of these activities.

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<td>6</td>
<td>15</td>
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### 3. Assignments
The 1st midterm IW grade will be issued after and based on the “QUICK FAILURE” PROJECT PRESENTATION. Please see the detailed description of the IW team project (structure, deliverables, and grading rules) in the full IW Syllabus. The 1st midterm grade will be calculated as:
The team grade for the “QUICK FAILURE” PROJECT PRESENTATION, multiplied by the personal Week 2 TEAM MUTUAL ASSESSMENT SCORE, multiplied by the personal Week 1+2 ATTENDANCE %

The title (max 35 characters) and the brief description (max 300 characters) of the “QUICK FAILURE” presentation should be submitted by the project team to Canvas by Thursday, September 12 noon. The same applies to the case when the team decided to changes the project after the “Quick Success” feedback. Failure to do so will result in zero midterm grade for the relevant week.

Each student in the IW course will be required to weekly evaluate each of his or her fellow team members for their contribution to the team activities. It is compulsory. The confidential peer evaluation scores, using the Peer Evaluation Form, will need to be submitted by each student before midnight on Saturday following the Friday Presentation. Failure to submit a peer evaluation by Saturday 23:00 will lead to 0 (zero)% score for the corresponding week.

The 2nd midterm IW grade will be issued after and based on the “DRY RUN” PROJECT PRESENTATION. Please see the detailed description of the IW team project (structure, deliverables, and grading rules) in the full IW Syllabus. The 2nd midterm grade will be calculated as:
The team grade for the “DRY RUN” PROJECT PRESENTATION, multiplied by the personal Week 3 TEAM MUTUAL ASSESSMENT SCORE, multiplied by the personal Week 3 ATTENDANCE %

The 3rd midterm IW grade will be issued after and based on the “THE FINAL CUT” PROJECT PRESENTATION. Please see the detailed description of the IW team project (structure, deliverables, and grading rules) in the full IW Syllabus. The 3rd midterm grade will be calculated as:
The team grade for “THE FINAL CUT” PROJECT PRESENTATION, multiplied by the personal Week 4 TEAM MUTUAL ASSESSMENT SCORE, multiplied by the personal Week 4 ATTENDANCE %

The team grade for THE IW PROJECT FINAL REPORT, multiplied by the personal Week 4 TEAM MUTUAL ASSESSMENT SCORE, multiplied by the personal Week 4 ATTENDANCE %

4. Grading

<table>
<thead>
<tr>
<th>Type of Assessment</th>
<th>Pass/Fail</th>
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<table>
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<tr>
<th>Grade Structure</th>
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<table>
<thead>
<tr>
<th>Activity Type</th>
<th>Activity weight, %</th>
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<tbody>
<tr>
<td>Team Project</td>
<td>20</td>
</tr>
<tr>
<td>Team Project</td>
<td>25</td>
</tr>
<tr>
<td>Team Project</td>
<td>30</td>
</tr>
<tr>
<td>Report</td>
<td>25</td>
</tr>
</tbody>
</table>

Grading Scale
5. Basic Information

Maximum Number of Students

<table>
<thead>
<tr>
<th></th>
<th>Maximum Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall:</td>
<td>360</td>
</tr>
<tr>
<td>Per Group (for seminars and labs):</td>
<td>60</td>
</tr>
</tbody>
</table>

Course Stream

Entrepreneurship and Innovation (E&I)

Course Term (in context of Academic Year)

Term 1A (first four weeks)

Course Delivery Frequency

Every year

Students of Which Programs do You Recommend to Consider this Course as an Elective?

<table>
<thead>
<tr>
<th>Masters Programs</th>
<th>PhD Programs</th>
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</thead>
<tbody>
<tr>
<td>All Master Programs</td>
<td></td>
</tr>
</tbody>
</table>

Course Tags

Engineering
Innovation

6. Textbooks and Internet Resources

<table>
<thead>
<tr>
<th>Required Textbooks</th>
<th>ISBN-13 (or ISBN-10)</th>
</tr>
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</table>
Recommended Textbooks

<table>
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Disciplined Entrepreneurship, Bill Aulet, Wiley 2013</td>
</tr>
</tbody>
</table>

7. Facilities

8. Learning Outcomes

**Knowledge**

(i) iterative progress through the innovation scheme, consisting of:
- producing the problem statement for the proposed innovation;
- performing quick prototyping;
- obtaining end user feedback on the innovation scheme and prototype;
- progressing through the iterative cycles of innovation.
(ii) working in a random cross-disciplinary team (a.k.a. “leadership without leverage”),
(iii) embracing Skoltech culture and community.

**Skill**

- to progress through the iterations of innovation scheme
- to produce the problem statement for the proposed innovation;
- to perform quick prototyping;
- to obtain the end user feedback on the innovation scheme and prototype;
- to work in the random cross-disciplinary team
- to embrace the Skoltech culture and community.

**Experience**

- IW student progresses through the iterations of innovation scheme
- IW student produces the problem statement for the proposed innovation;
- IW student performs quick prototyping;
- IW student obtains end user feedback on the innovation scheme and prototype;
- IW student works in the random cross-disciplinary team
- IW student embraces Skoltech culture and community.

9. Assessment Criteria

Input or Upload Example(s) of Assignment 1:

Select Assignment 1 Type

Team Project

Input Example(s) of Assignment 1 (preferable)
Please note that the understanding of the complex structure of IW assessment system is possible only through studying the full IW syllabus that is placed in the Files section of your IW Canvas page. Here we provide only very general information.

The first three graded assignments are the Friday presentations that must consist of 6-10 slides covering 6 key topics of the project mentioned below and detailed in the full IW Syllabus. It is advisable to use the graphic tools listed in the chapter 1.1. of the full I Syllabus, however, the choice of the optimal way of presentation always remains the decision and the responsibility of the project team. Each topic mentioned below should be presented by the dedicated team member in 1 minute. Together with 4 minutes for prototype presentation it puts the total length of the IW project presentation at 10 minutes.

1) Problem statement for the project
2) Prototype/scheme of the solution of the problem
3) Scientific validation of the efficacy of the tangible prototype in solving the problem
4) End User feedback on the tangible prototype
5) Plan and Vision of the next steps of the project
6) Team pictures and roles

Please note that the iterative nature of IW learning requires that the evolution of each pillar of the Project since the previous iteration is emphasized both in team discussions and presentations. Such evolution will be the sizable component of the IW team presentation grade.

The title (max 35 characters) and the brief description (max 300 characters) of the “Quick Failure” presentation should be submitted by the project team to Canvas by Thursday, September 12 noon. The same applies to the case when the team decided to change the project after the “Quick Success” feedback. Failure to do so will lead to 0 (zero)% score for the corresponding week to the entire team.

Assessment Criteria for Assignment 1

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem statement for the project</td>
<td>20%</td>
</tr>
<tr>
<td>Prototype/scheme of the solution of the problem</td>
<td>20%</td>
</tr>
<tr>
<td>Scientific validation of the efficacy of the tangible prototype in solving the problem</td>
<td>5%</td>
</tr>
<tr>
<td>End User feedback on the tangible prototype</td>
<td>20%</td>
</tr>
<tr>
<td>Plan and Vision of the next steps of the project</td>
<td>5%</td>
</tr>
<tr>
<td>Team pictures and roles</td>
<td>30%</td>
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</table>

Input or Upload Example(s) of Assignment 2:

Select Assignment 2 Type: Report

Input Example(s) of Assignment 2 (preferable)
The final task in the Innovation Project is that each team must produce a written report of the whole Innovation Project that should include three main components:

• The STORY of your team’s Project from the first iteration (“Quick Failure” Friday) of the Technological Innovation Scheme to the third iteration of the Technological Innovation Scheme (“The Final Cut” Friday)
• Discussion of the LESSONS that your team has learned from doing the Project
• Statement and explanation of the STRATEGIC DECISION that needs to be made by the team, going forward after the end of the Innovation Workshop.

Each team should submit one single team report to the appropriate team-assignment location on Canvas. Only one person from each team needs to submit the report to Canvas. There is no required minimum or maximum length for the report. You may include as many appendices (tables, charts, diagrams, supporting data, photographs, etc.) as you like.

### Assessment Criteria for Assignment 2

25%: Comprehensiveness of the report and the Scheme
25%: Strength of project progression between iterations of the team’s IW Project
25%: Logical structure of the report
25%: Quality of expression and style of the report

### Input or Upload Example(s) of Assignment 3:

**Select Assignment 3 Type**

Other

**Input Example(s) of Assignment 3 (preferable)**

Your IW attendance % will be measured by different means as explained in the Full Syllabus.

### Assessment Criteria for Assignment 3

Each of your team grades for the presentations and for the project will be multiplied by your attendance %. If you miss more than grace number of days at the IW, your IW grade is 0. The grace number will be announced during the IW.

### Input or Upload Example(s) of Assignment 4:

**Select Assignment 4 Type**

Other

**Input Example(s) of Assignment 4 (preferable)**

Each student in the IW course will be required to weekly evaluate each of his or her fellow team members for their contribution to the team activities. It is compulsory. The confidential peer evaluation scores, using the Peer Evaluation Form, will need to be submitted by each student before midnight on Saturday following the Friday Presentation. Failure to submit a peer evaluation by Saturday 23:00 will lead to 0 (zero)% score for the corresponding week.

### Assessment Criteria for Assignment 4

Each of your team grades for the presentations and for the project will be multiplied by your team assessment score after being multiplied by your attendance %. If your team gives you 0 assessment grade, your IW grade is 0.

### Input or Upload Example(s) of Assignment 5:
The IW is a full-time intensive one-month learning experience. Full participation in the course—meaning full-time engagement (i.e., at least eight hours per day, for at least five days per week over four weeks)—is compulsory for all students. Exceptions will only be permitted for special cases allowed under REGULATIONS ON SKOLTECH STUDENT ATTENDANCE №131/10 of September 1, 2014, such as illness, or a family emergency, etc. Teaching assistants will monitor student attendance and participation. To avoid troubles, please consult both Skoltech regulations and the full IW Syllabus.

IW is not a business accelerator or a business plan competition. Some student projects may remain very early-stage and even immature. The other student projects may become developed enough to be continued beyond IW into the student Skoltech tenure. In both cases, the success of the IW project is measured not in quantitative terms of raising financing or starting operations, but in academic terms of diligently developing the projects along the pillars of innovation that are taught at the IW: Problem Statement, Prototyping, End User Feedback, and Vision of Subsequent Iterations.

IW is not a business class competition and not a hard skill class. It is less about knowledge and more about developing skills and attitudes necessary to lead successful life in innovation. It is also an opportunity for students to learn more about Skoltech’s basic values and meet the entire class and most of the faculty in an intensive relationship-building setting.

The only way to fail in IW is to give up or to free ride. Any other route along the three pillars is success: students are encouraged to reshape and even restart their projects as they find appropriate. There are no project failures in IW, only character and experience failures. We learn to be productively wrong and stricklingly right. We start from the hunch, quickly build the prototype, obtain user feedback, and update the prototype in multiple iterations. This is picture of success of the IW and, generally, an Innovator.