Computer Science

Research Methods and Making Skills (COMP0145)

Description

Aims:
This module will equip students with the basics of: qualitative research methods, quantitative research methods, basic coding and making skills.

The module is designed to be aligned with the 30 credit Future Global Technologies for Disability and Development module and will be a split of practical workshops and lab sessions in the Institute of Making as well as more formal seminars and computer lab sessions.

Learning outcomes:
1. Making Skills
   Students will be able to:
   - Create prototypes using a range of methods and materials
   - Know where to find more information on material properties to inform design choices
   - Use making as a design tool

2. Research Skills
   Students will be able to:
   - Choose an appropriate study design and statistical test
   - Describe biases and errors in data types
   - Design co-design workshops, semi-structured interview plans and questionnaires
   - Use thematic analysis to code the interviews and questionnaires
   - Visualise quantitative data sets for exploratory and explanatory purposes

3. Computing Skills
   Students will be able to:
   - Understand variables, looping and structures of basic scripting
   - Create simply Python and Arduino programs of basic scripting

Key information

<table>
<thead>
<tr>
<th>Year</th>
<th>2019/20</th>
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<tbody>
<tr>
<td>Credit value</td>
<td>15 (150 study hours)</td>
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<tr>
<td>Delivery</td>
<td>PGT L7, Campus-based</td>
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<tr>
<td>Reading List</td>
<td>View on UCL website</td>
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<tr>
<td>Tutor</td>
<td>Dr Youngjun Cho</td>
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<tr>
<td>Term</td>
<td>Term 1</td>
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<td>Timetable</td>
<td>View on UCL website</td>
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Assessment

- Written examination (main exam period): 70%
- Coursework: 30%

Find out more

For more information about the department, programmes, relevant open days and to browse other modules, visit ucl.ac.uk

Disclaimer: All information correct as of June 2019. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.
- Create physical computing prototypes with Arduino (or similar) platforms

4. Transferable Skills
Students will be able to:
- Deliver concise, informative presentations
- Develop clear project plans
- Develop self-reflection
- Communicate in a cross-disciplinary team
- Communicate and advocate with disabled people

Content:
Making & Computing 101
- Paper & Cardboard prototyping
- Materials and their properties
- 3D printing
- Laser Cutting
- Microcontroller programming (Arduino & Python)

Co-design Methods:
- Data Collection in the wild (using Arduino or similar)
- Interviews & Questionnaires
- Thematic analysis framework
- Co-design workshops
- Participatory Photography

Statistics & Data Visualisation (All through Python & R):
- Types of data
- Parametric methods
- Non-parametric methods
- Knowing what type of test to use when
- Bias and error reporting
- Creating meaningful visualisations

Requisites:
Students will be expected to complete the online introductory course before joining in Term 1.

The module will be restricted to MSc Disability, Design, and Innovation for 2019 – 2020.