Catastrophe Risk Modelling (IRDR0008)

**Description**
This module aims to provide the student with an understanding of the science and engineering underlying catastrophe models. It will further discuss catastrophe modelling in the context of risk transfer in industry and future possibilities for building resilience. An industry-focussed module, this module is taught by a range of guest lecturers from within industry and UCL lecturers who have industrial experience working within the Catastrophe Modelling industry.

In this module, the following topics will be covered:

- An introduction to catastrophe modelling and how they can be used for building resilience.
- Probabilities and statistics - the role of uncertainties, probability, and Monte Carlo simulation in Catastrophe models.
- Hazard modelling including examples of earthquake, wind and flood.
- Exposure Modelling and its challenges.
- Fragility and Vulnerability Modelling with a focus on earthquake, wind and storm surge modelling.
- Financial losses.
- Application of catastrophe risk models for pre and/or post-event loss modelling and real-time scenarios.
- Appraising and selecting current models.
- The challenges and issues in application of catastrophe models in developing countries.

**Key information**

<table>
<thead>
<tr>
<th><strong>Year</strong></th>
<th>2019/20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credit value</strong></td>
<td>15 (150 study hours)</td>
</tr>
<tr>
<td><strong>Delivery</strong></td>
<td>PGT L7, Campus-based</td>
</tr>
<tr>
<td><strong>Reading List</strong></td>
<td><a href="#">View on UCL website</a></td>
</tr>
<tr>
<td><strong>Tutor</strong></td>
<td>Dr Joanna Faure Walker</td>
</tr>
<tr>
<td><strong>Term</strong></td>
<td>Term 2</td>
</tr>
<tr>
<td><strong>Timetable</strong></td>
<td><a href="#">View on UCL website</a></td>
</tr>
</tbody>
</table>

**Assessment**

- Written examination (departmentally managed): 30%
- Coursework: 50%
- Group coursework: 20%

**Find out more**

For more information about the department, programmes, relevant open days and to browse other modules, visit [ucl.ac.uk](http://ucl.ac.uk).
Catastrophe Risk Modelling (IRDR0008)

Description
This module aims to provide the student with an understanding of the science and engineering underlying catastrophe models. It will further discuss catastrophe modelling in the context of risk transfer in industry and future possibilities for building resilience. An industry-focused module, this module is taught by a range of guest lecturers from within industry and UCL lecturers who have industrial experience working within the Catastrophe Modelling industry.

In this module, the following topics will be covered:

- An introduction to catastrophe modelling and how they can be used for building resilience.
- Probabilities and statistics - the role of uncertainties, probability, and Monte Carlo simulation in Catastrophe models.
- Hazard modelling including examples of earthquake, wind and flood.
- Exposure Modelling and its challenges.
- Fragility and Vulnerability Modelling with a focus on earthquake, wind and storm surge modelling.
- Financial losses.
- Application of catastrophe risk models for pre and/or post-event loss modelling and real-time scenarios.
- Appraising and selecting current models.
- The challenges and issues in application of catastrophe models in developing countries.

Key information

<table>
<thead>
<tr>
<th>Year</th>
<th>2019/20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit value</td>
<td>15 (150 study hours)</td>
</tr>
<tr>
<td>Delivery</td>
<td>UGM L7, Campus-based</td>
</tr>
<tr>
<td>Reading List</td>
<td>View on UCL website</td>
</tr>
<tr>
<td>Tutor</td>
<td>Dr Joanna Faure Walker</td>
</tr>
<tr>
<td>Term</td>
<td>Term 2</td>
</tr>
<tr>
<td>Timetable</td>
<td>View on UCL website</td>
</tr>
</tbody>
</table>

Assessment

- Written examination (departmentally managed): 30%
- Coursework: 50%
- Group coursework: 20%

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 August 2019. Please note that aspects of the module may be subject to change. UCL will make best efforts to inform applicants of major changes.