Virtual Environments (COMP0113)

**Description**

**Aims:**
The purpose of this module is to introduce students to the main concepts and practical issues in constructing and understanding Virtual Environments, and how people respond to a VE experience. Given the background of the module teachers, the focus on the technical side will be more on the visual aspects of VEs. A central theme of the module will also be that the understanding of VEs can be best understood through the concepts of presence and shared presence.

**Learning outcomes:**
On successful completion of the module, a student will be able to:
1. Understand the core issues in VEs and have constructed a VE using an immersive system;

**Content:**

**Introduction:**
- Virtual Environment;
- Technology Requirements;
- Applications;

**Interaction:**
- 3D Interaction tasks;
- Tracking;
- Input devices;
- System affordances;
- 3D Widgets;

**Presence:**
- Immersion and presence;
- Meaning and utility of presence;
- Measuring presence;

**Displays:**
- 3D and Stereo Viewing;
- HMDs, CAVEs and desks;
- Graphics Architectures;

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**Key information**

- **Year**: 2019/20
- **Credit value**: 15 (150 study hours)
- **Delivery**: PGT L7, Campus-based
- **Reading List**: [View on UCL website](https://www.ucl.ac.uk)
- **Tutor**: Dr Tobias Ritschel
- **Term**: Term 1
- **Timetable**: [View on UCL website](https://www.ucl.ac.uk)

**Assessment**

- Report: 40%
- Individual project: 40%
- Group project: 20%

**Find out more**

For more information about the department, programmes, relevant open days and to browse other modules, visit [ucl.ac.uk](https://www.ucl.ac.uk)

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**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.
Programming Virtual Environments:
- Programming models;
- Simulation and animation;
- Programming for distribution devices;

Devices:
- Haptic devices;
- Sound simulation;
- Augmented reality;

Requisites:
In order to be eligible to select this module, a student must be registered on a programme for which it is formally available.
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