Module Code | CS7054  
Module Name | Mobile and Autonomous Systems Innovation  
Module Short Title | N/a  
ECTS weighting | 5  
Semester/term taught | Hilary Term  

| Contact Hours |  
| Lecture hours: 33  
| Lab hours: 0  
| Tutorial hours: 0  
| Total hours: 33  

Module Personnel | Lecturing staff: Ricardo Simon Carbajo  

Learning Outcomes | On successful completion of this module students should be able to:  
- Describe the process of innovation and the different stages involved  
- Synthesise emergent concepts and technology innovations in defining a mobile, autonomous and ubiquitous computing innovation agenda  
- Design, manage and realise a novel technical service and/or product  
- Assess commercialisation strategies within the domain  

Module Learning Aims | This module will foster and encourage innovation in the Mobile, Autonomous and Ubiquitous Computing (MAUC) spaces. A combination of interactive lectures and key presentations from serial entrepreneurs and experts in mobile technology innovation will scaffold student engagement in the development of creative and innovative solutions. Emergent technologies will be identified and analysed to provide insight into dynamic innovation in the domain of MAUC. Students will engage with the practical side of the entrepreneurial innovation process through the development of an original, creative product, concept or service.  

Module Content | High level themes (focussed on the MAUC space) will include:  
- Emergent research;  
- Innovation;  
- Entrepreneurship;  
- Innovation agenda;  
- Commercialisation;  
- Productisation  
In exploring these concepts the module will highlight cutting-edge innovative projects which exploit technologies from the mobile, autonomous and ubiquitous systems domain including:  
- Robotics – e.g. iRobot  
- Humanoids – e.g. ASIMO  
- Legged Robots – e.g. Boston Dynamics’ Big Dog
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- Autonomous Driving – e.g. Google Driverless Car  
- Unmanned Aerial Vehicles – e.g. SmartBird  
- Swarm Intelligence – e.g. Swarmanoid  
- Ambient Intelligence – e.g. Intel’s Lab Context Aware Projects  
- Wireless Body Area Networks – e.g. Telemedicine

### Recommended Reading List

The module leverages a variety of sources (articles, video-lectures, talks, websites, ...), in the domain of innovation and research within the mobile, autonomous and ubiquitous systems space. Students are also strongly encouraged to independently:

i) develop their insight into the process of innovation and entrepreneurship,  
ii) acquire knowledge and independence in thought in the area of MAUC, and  
iii) identify threats and opportunities in the MAUC domain space

### Module Pre Requisite

Successful completion of a telecommunications module/programme with significant mobile systems content.

### Module Co Requisite

None

### Assessment Details

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<tr>
<th>% Exam</th>
<th>% Coursework</th>
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<td>0</td>
<td>100</td>
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There is no exam in this course. Students are assessed based on their individual engagement and a practical innovation project in the area of Mobile, Autonomous and Ubiquitous Systems.

### Module approval date

N/a

### Approved By

N/a

### Academic Start Year

N/a

### Academic Year of Data

N/a