B39VT Integrated Group Robotics Project

**COURSE DETAILS**

**Course Code:** B39VT  
**Full Course Title:** Integrated Group Robotics Project  
**SCQF Level:** 9  
**SCAF Credits:** 30  
**Available as Elective:** No

**DELIVERY LEVEL**

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<th>Undergraduate:</th>
<th>Yes</th>
<th>Postgraduate Taught:</th>
<th>No</th>
<th>Postgraduate Research:</th>
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Additional Information:

Course being delivered at the specified campus(es) and also by Collaborative Partner - Ocean University of China on BEng Robotics Programme.

**COURSE AIMS**

- Provide a realistic design environment for students to develop technical and technical management skills.
- Provide an appreciation and understanding of the design process when applied to the design of a real product.
- Provide a platform to demonstrate theoretical and practical skills in robotic systems design.
- Provide a platform for students to develop their team-working skills in a technical environment.
- Provide a technical challenge for the students to tackle a significantly larger scale than normal for academic problems.
- Provide an appreciation of a structured design method.

**LEARNING OUTCOMES – SUBJECT MASTERY**

Critically understand the importance of overall product design.  
Appreciate the technical problems in merging differing technologies in limited time-scales.  
Understand the importance teamwork when faced with complex designs tasks.  
Use a variety of skills and techniques to tackle complex problems.

**LEARNING OUTCOMES – PERSONAL ABILITIES**

Development of team skills, presentation techniques, and working to strict self imposed deadlines.  
Use appropriate tools for project planning, managing and presentation.  
Project demonstration to academic staff and staff from industry.  
Provision of team documents- meeting minutes, intermediate technical demonstrators, and final report.  
Work as an autonomous team taking on responsibilities as part of a team.

**SYLLABUS**

a. Team working skill development in an environment similar to industry.
   i. Teams given an open-ended specification that requires the construction of a robotic product prototype that includes:
      - digital, analogue and embedded processor hardware, embedded software and mechanical design
   ii. Students form a company of 5/6 individuals
   iii. Students develop the product specification
   iv. Students produce detailed project plans
   v. Students manage the team monitoring milestones and resource allocation
b. Business development skills for engineering type companies
   i. Teams produce a business plan for their company
   ii. Teams provide weekly meeting minutes and attend a weekly meeting with staff to present progress and specified project milestones.

c. The assessments are based on interim deliverables and meetings with project managers culminating in an afternoon of product presentations to staff, outside bodies, and their year students.

d. Final assessment involves the submission of a project technical report.

**COURSE RELATIONSHIPS**

<table>
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<tr>
<th>Course Code</th>
<th>Level</th>
<th>Title</th>
<th>School</th>
<th>Type</th>
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<tbody>
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<td>B38VR</td>
<td>8</td>
<td>Group Robotics Project</td>
<td>School of Eng &amp; Physical Sci</td>
<td>Pre-Requisite</td>
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**LOCATION AND ASSESSMENT METHODS**

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