

# Engaging Undergraduates in RESEARCH and INQUIRY: A Scholarly Dialogue

## Underwater remote operating vehicle group project and competition

### Course Instructor/Project leader

Prof Lam Fat Yeung, *Associate Professor, Electronic Engineering, CityU*

### Members

Dr Robin Bradbeer, *Associate Professor, Electronic Engineering, CityU*

Paul Hodgson, *Visiting Fellow, Electronic Engineering, Oceanwave*

### Project/Course Objectives

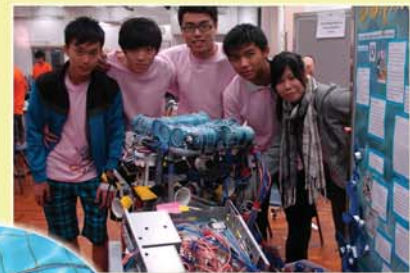
This is a multidisciplinary group project (4 to 6 students per group) to fulfill part of the course requirement (Electronic Product Design) and serves as their final year project. This project enables students to acquire:

1. project management and inter-personal skills,
2. multidisciplinary problem investigation and solving skills,
3. skills of applying theory to practice,
4. social awareness and its applications.

### Inquiry Based Learning Activities

- Background and feasibility studies
- Project planning and top-down subdivision of tasks
- Exploration and acquisition of knowledge out of their principle area of studies
- Division of labor, design, implementations, diagnostic and project integration skill

The learning activities included literature and web based information acquisition, guided training and workshops, hands on experience, and finally, project report presentations.



### How did you assess the effectiveness of students' learning?

1. Interview and interim report assessment,
2. Project presentation, and question and answer sessions with supervisors and peers.
3. Project demonstrations, justifications in terms of engineering sense,
4. Project competition, so that peer to peer comparison can be made and learnt.

### What were the major outcomes of this project/course? Do they match with your objectives?

A workable underwater remote operating vehicle (ROV) was built, tested, and demonstrated to fulfill a set of specific missions in the contest. The winning team will receive awards and be sent to compete at the international MATE remote operating vehicle (ROV) contest.