Workshop: Good practice guidelines for curriculum, supervision and assessment of final year engineering projects and AQF8 learning outcomes

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BACKGROUND

Undergraduate engineering programs require final year students to complete capstone final year projects and demonstrate that they can integrate knowledge, skills and professional graduate attributes developed during the program at Australian Qualification Framework, level 8 (AQF8) outcomes. Literature shows that currently there is no guarantee of consistency for curriculum, supervision and assessment practices of FYEPs. Practices differ greatly between universities and little work has been initiated that seeks to identify good practice, highlighting the need for the development of guidelines for curriculum, supervision and assessment of FYEPs.

This workshop is designed to share and disseminate the good practice guidelines that have been developed on curriculum, supervision and assessment of Final Year Engineering Projects as a part of phase 2 of the project 'Assessing Final Year Engineering Projects (FYEPs): Ensuring Learning and Teaching Standards and AQF8 Outcomes' funded by the Australian Office for Learning and Teaching (OLT) with people working in the area of FYEPs. The guidelines typically apply to four year undergraduate engineering degrees with embedded Honours and support achievement of AQF8 learning outcomes. The project team has 7 partner Universities – Central Queensland University (the lead), University of Technology Sydney, University of Adelaide, Curtin University, Deakin University, University of Tasmania and RMIT University.

Participants will be invited to reflect on and evaluate guidelines and findings derived from FYEP coordinators, supervisors and the wider literature and to consider the ways in which these findings might lead to improvements in their practice.

TARGET AUDIENCE

This workshop will be most beneficial for those participants with a background and experience in FYEPs course supervision, coordination, teaching, assessment and curriculum development. It will also be useful for Heads of Programs or Program Coordinators with responsibilities for ensuring learning and teaching standards which meet the criteria of AQF8 outcomes in their engineering degrees. Prior knowledge in participants' institutions' practices in relation to FYEPs is therefore desirable**.**

METHOD

Participants will be asked to view the guidelines and comment on the extent to which the guidelines resonate with their current practice and experience. Participants will be given several examples of good practice that support the guidelines. The workshop will enable participants to see what is happening with FYEP from a national perspective and to generate ideas for ensuring AQF8 outcomes for their institution. It presents an opportunity for learning about and sharing exemplary practice**.**

INTENDED LEARNING OUTCOMES

The workshop aims to:

- Disseminate national findings of the project *Assessing Final Year Engineering Projects: Ensuring learning and teaching standards and AQF8 outcomes*.

- Disseminate and promote good practice guidelines for ensuring learning and teaching standards which meet the criteria of AQF8 outcomes.
- Provide participants with a forum to reflect on and develop improved practice in FYEP assessment, supervision and curriculum development.
- Promote networking opportunities for participants to share current practice and developed guidelines.

PRESENTERS

Only biographies of authors who will take lead to present the workshop are given here.

Associate Professor Mohammad Rasul (Project Leader) of School of Engineering and Technology, Central Queensland University, is well experienced in design, development and assessment of FYEPs and has contributed significantly to the operation of FYEPs in undergraduate engineering programs at Central Queensland University. He has extensive experience in developing learning and teaching guides in engineering programs, both undergraduate and postgraduate level. He has supervised over 65 FYEPs to completion. He has published over 350 research articles including about two dozen refereed articles on engineering education including one edited book on *Developments in Engineering Education Standards: Advanced Curriculum Innovation* and three book chapters in the area of assessment and development of FYEPs and project based learning and innovative teaching practices.

Justine Lawson is the research officer on this project and with academic and professional experience in the areas of assessment and teaching and learning. She has wide experience in research projects and has both participated in and led interdisciplinary research projects and partnerships across a number of institutions.

Dr Rob Jarman is the (Acting) Associate Dean Teaching & Learning in the Faculty of Engineering and Information Technology (FEIT) at UTS. He has B.E Electrical (Hon), a GradCertH.Ed, and PhD (Engineering) from UTS. He chairs the Faculty Course Committee, Faculty Quality Committee and Faculty Coursework Projects Committee. He has previously held positions of Director of Undergraduate Programs (Engineering) for 6 years; subject coordinator for the final year Engineering Capstone Project subjects for 12 years, and Program Head of Electrical Engineering. Rob supervises the R&D activities of the Faculty's Renewable Energy Laboratory which has a focus on micro-hydroelectric power generation. He has extensive experience in community development through appropriate and sustainable technology transfer including working with remote rural communities in developing countries.

Professor Roger Hadgraft is a Deputy Dean of Learning and Teaching at the School of Engineering and Technology of Central Queensland University. He was an Innovation Professor in Engineering Education in the School of Aerospace, Mechanical and Manufacturing Engineering at RMIT University. He is a civil engineer with more than 15 years involvement in leading change in engineering education, with a particular focus on problem/project-based learning (PBL) at RMIT, Monash and Melbourne Universities, with a focus on sustainable systems engineering. In 2009-10, he was OLT Discipline Scholar in Engineering and ICT with Professor Ian Cameron from UQ, developing the draft national academic standards.

The rest of the project team represent diverse research and teaching backgrounds and hold common interests in the development of quality FYEP processes. The team comprises of lecturing and professorial academics with experiences in curriculum innovation, program coordination, assessment design and supervision of FYEPs and Research Higher Degree (RHD) students. They represent a full range of engineering disciplines. They have widely published and actively engaged in learning and teaching scholarship and research.