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An analysis of the 4th year " system management and integration" course, using individual reflections on working in multidisciplinary groups

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ABSTRACT

It is a requirement of the Engineering Council of South Africa (ECSA) that all tertiary education institutions ascertain whether their current courses meet the ECSA Exit Level Outcomes (ELO), as identified by the institution themselves. The course project for MECN4020 – Systems Engineering and Management – at the University of the Witwatersrand is required to meet the requirement of the ECSA ELO 8, as prescribed. Students are instructed to reflect on the experience.

Qualitative research is used to both induct emergent themes from the student reflections, as well as deduct, whether the ECSA ELO 8 requirements are met by the project.

Emergent themes from inductive analysis result in emergent themes, which are then compared to the pilot study conducted. Deductive analysis identifies the inference that may be placed on the student population, so that the ECSA ELO 8 requirements are identified as met or not met.

ECSA ELO 8 requirements that are considered to be met by the group project for MECN4020 are "The Candidate Makes Individual Contributions", "The Candidate Enhances the Work of Fellow Team Members", "The Candidate Benefits from the Support of Team Members", "The Candidate Communicates Effectively With Team Members", "The Candidate Acquires a Working Knowledge of a Co-Workers Discipline", "The Candidate Communicates Across a Disciplinary Boundary" and "The Candidate Uses a Systems Approach".

Emergent themes and extant literature as used to develop recommendations, so that the MECN4020 project may meet the ECSA ELO 8 requirement. Suggestions for improvement are given using a framework consistent with the design of multidisciplinary education design.