

ENGINEERS AUSTRALIA

ACCREDITATION BOARD

ACCREDITATION MANAGEMENT SYSTEM FOR ENGINEERING EDUCATION PROGRAMS (CURRICULUM BASED)

IN THE OCCUPATIONAL CATEGORY OF ENGINEERING ASSOCIATE

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1. NATIONAL GENERIC COMPETENCY STANDARDS AND LINKS WITH PROGRAM ACCREDITATION

Engineers Australia publishes and maintains the ***National Generic Competency Standards*** for Professional Engineers, Engineering Technologists and Engineering Associates (Officers) and has a system for assessing the competencies of applicants against the standards. The standards are available in full at www.engineersaustralia.org.au. The standards recognise two stages of competency:

Stage 1 is the level of competency needed for entry to practice as a qualified member of the engineering team, corresponding to completion of an accredited or recognised educational qualification. Graduates of accredited professional engineering programs, accredited engineering technologist programs and accredited Engineering Associate programs are deemed to have attained the competencies of a Stage 1 Professional Engineer, Engineering Technologist or Engineering Associate as appropriate without further assessment.

Stage 2 is the level of competency expected of an experienced engineering practitioner, and is the requirement for Chartered membership of Engineers Australia as well as professional registration. Attainment of Stage 2 competencies requires a period of experiential formation under appropriate professional guidance. A Chartered Professional Engineer, Chartered Engineering Technologist or Chartered Engineering Associate is competent to practise independently; to the highest standards; committed to maintaining professional currency and is accountable for quality, safety and ethical behaviour within the boundaries of the appropriate occupational category. Competency assessment is performed by an assessment panel and involves a self-assessment, the writing of a practice report, a professional interview and a commitment to continuing professional development. The published Stage 2 Competency Standards provide a comprehensive definition of Stage 2 practice competencies, and require that Stage 1 enabling competencies have already been demonstrated. The successful attainment of Stage 1 competencies allows the period of guided professional formation, and thus the development of the practice competencies, to begin.

The most common means of attaining the Stage 1 competencies is by graduating from an accredited engineering education program, at the appropriate level, however this is not a mandatory route. Engineers Australia accredits academic programs appropriate to the occupational categories of Professional Engineer, Engineering Technologist and Engineering Associate.

The National Generic Competency Standards – Stage 1 Competency Standard for Engineering Associate (Reference 1) provides a basis for assessing persons who do not hold accredited or recognised engineering qualifications at the Engineering Associate level, and who are seeking membership of Engineers Australia. Examples include:

- candidates holding Australian engineering qualifications that have not been accredited or approved by Engineers Australia;
- candidates holding engineering qualifications from overseas countries with which Engineers Australia does not have formal accreditation or mutual recognition agreements;
- candidates holding qualifications in fields related to engineering, not recognised by Engineers Australia, who have substantial experience in engineering practice.

Stage 1 competency in the occupational category of Engineering Associate requires the demonstration of:

- Foundation knowledge and skills in the application of science, mathematics and engineering science.
- Understanding of engineering and technology in the designated field of practice.
- An ability to apply techniques, tools and resources appropriate to the field of practice.
- Engineering application skills including application of codes and standards; specifying and installing systems; application of standard design procedures; assessment of technical and policy options; observation, analysis, testing, operations and maintenance functions as well as an ability to act as a technical expert and understanding of the business environment.
- Personal and professional attributes including communication skills, the management of information, a capacity for creation and innovation, commitment to professional and ethical responsibilities, leadership and team skills, capacity for lifelong learning and appropriate professional attitudes.

Stage 1 competency is in fact a combination of knowledge and skills as well as engineering application ability and professional attributes.

The specification of objectives and targeted graduate capabilities for an engineering education program in a particular discipline should, in a generic sense, be built upon and reflect these Stage 1 competencies. Developing graduate outcomes satisfying the Stage 1 competency definition will ensure that graduates are satisfactorily equipped with the knowledge, skills and attributes essential for entry to practice in the specified field of practice. The accreditation criteria and associated performance indicators defined in Reference 3 have been devised as a means of assessing the potential for a particular engineering education program, delivered within an appropriate educational setting, to deliver graduates equipped with the Stage 1 competencies defined in Reference 1.

2. REFERENCES

- 1 P05EA Engineers Australia National Generic Competency Standards - Stage 1 Competency Standard for Engineering Associate.
- 2 P02EA_Curr Engineers Australia Policy on Accreditation of Professional Engineering Programs.
- 3 S02EA_Curr Accreditation Criteria Summary.