

Swinburne Engineering Competencies

K1	Basic Science: <i>Proficiently applies</i> concepts, theories and techniques of the relevant natural and physical sciences.
K2	Maths and IT as Tools: <i>Proficiently uses</i> relevant mathematics and computer and information science concepts as tools in complex engineering activities.
K3	Discipline Specific: <i>Proficiently applies</i> advanced technical knowledge of the specific discipline within that context.
K4	Emerging Disciplinary Trends: <i>Proficiently applies</i> research principles and methods on current or emerging complex problems of the specific discipline .
K5	Practice Context: <i>Discerns and appreciates</i> the societal, environmental and other contextual factors affecting professional engineering practice.
K6	Professional Practice: <i>Appreciates</i> the principles of professional engineering practice in a sustainable context.
S1	Engineering Methods: <i>Applies</i> engineering methods in practical applications and complex engineering problems.
S2	Problem Solving: <i>Systematically uses</i> current or emerging knowledge and research methods to undertake independent research in solving complex engineering problems and as preparation for research higher degrees.
S3	Design: <i>Systematically uses</i> engineering methods in designing solutions to complex engineering problems.
S4	Project Management: <i>Systematically uses</i> engineering methods in conducting and managing project work including finance.
A1	Ethics: <i>Values</i> the need for, and <i>demonstrates</i> , ethical conduct and professional accountability.
A2	Communication: <i>Demonstrates</i> effective communication to professional and wider audiences including in complex engineering activities.
A3	Entrepreneurial: <i>Appreciates</i> entrepreneurial approaches to engineering practice.
A4	Information Management: <i>Demonstrates</i> seeking, using, assessing and managing information.
A5	Professional Self: <i>Demonstrates</i> professionalism and life-long learning.
A6	Management of Self: <i>Demonstrates</i> self-management processes.
A7	Teamwork: <i>Demonstrates</i> effective team membership and team leadership.