

Standing Requirements

Outcomes Library

BS in Architectural Engineering Technology Outcome Set

1: Students will employ concepts of architectural theory and design in a design environment.

Outcome	Mapping
1.1 Students will synthesize information and generate concepts and/or responses Students will synthesize information and generate multiple concepts and/or multiple design responses to programmatic requirements.	No Mapping
1.2 Students will demonstrate creative thinking and originality Students will demonstrate creative thinking and originality through presentation of a variety of ideas, approaches, and concepts.	No Mapping

2: Students will utilize instruments, methods, software, and techniques that are appropriate to produce A/E documents and presentations

Outcome	Mapping
2.1 Students will produce competent contract documents Students will produce competent contract documents including coordinated drawings, schedules, and specifications appropriate to project size and scope, and sufficiently extensive to show how design solutions and interior construction are related.	Foundational Studies: 10. Express themselves effectively, professionally, and persuasively both orally and in writing.
2.2 Students will deliver presentations concerning project delivery Students will deliver effective presentations concerning complete project delivery.	Foundational Studies: 10. Express themselves effectively, professionally, and persuasively both orally and in writing.
2.3 Students will write technical business letters and reports Students will write technical business letters and reports using professional English.	Foundational Studies: 10. Express themselves effectively, professionally, and persuasively both orally and in writing.
2.4 Students will identify detail hierarchies, scale, and content.	No Mapping

3: Students will utilize measuring methods that are appropriate for field, office, or laboratory

Outcome	Mapping
3.1 Students will effectively apply the elements and principles of design to twodimensional design solutions.	No Mapping
3.2 Students will effectively apply the elements and principles of design to threedimensional design solutions.	No Mapping
3.3 Students will demonstrate layout and alignment control using surveying equipment.	No Mapping
3.4 Students will use surveying skills to organize and develop a site.	No Mapping
3.5 Students will analyze static forces in structures.	No Mapping

3.6 Students will apply soil mechanics to excavations and foundations. No Mapping

4: Students will apply fundamental computational methods and elementary analytical techniques in sub-disciplines

Students will apply fundamental computational methods and elementary analytical techniques in sub-disciplines related to architectural engineering

Outcome	Mapping
4.1 Students will analyze heat flow through wall assemblies.	No Mapping
4.2 Students will solve problems using trigonometry as it relates to surveying.	Foundational Studies: 2. Critically evaluate the ideas of others.

5: Students will perform economic analyses and cost estimates related to design, construction, and maintenance of building systems

Outcome	Mapping
5.1 Students will create quantity takeoffs for residential and commercial projects.	No Mapping
5.2 Students will identify and apply labor and equipment productivity factors.	No Mapping
5.3 Students will identify and estimate direct and indirect job costs.	No Mapping
5.4 Students will use estimating software applications to prepare and submit construction bids.	No Mapping
5.5 Students will explain capital equipment depreciation and how this is used by construction companies.	No Mapping
5.6 Students will estimate project cash flow and identify payment processes and the affects of time value of money.	No Mapping

6: Students will select appropriate materials and practices for building construction

Outcome	Mapping
6.1 Students will demonstrate typical fabrication and installation methods Students will demonstrate typical fabrication and installation methods for specified materials and products.	No Mapping
6.2 Students will demonstrate basic principles of civil engineering in CAD.	No Mapping
6.3 Students will apply the NEC for proper installations of electrical systems.	No Mapping
6.4 Students will demonstrate how the LEED rating system is applied to buildings.	No Mapping
6.5 Students will compare the composition and properties of building materials.	No Mapping
6.6 Students will understand terms, units of measurement, material grade stamps, sizes of materials, and define tolerances	No Mapping
6.6 Students will understand construction terms, units of measurement, material grade stamps, actual and nominal sizes of materials, and define tolerances.	No Mapping
6.7 Students will apply conformance references established by testing laboratories to building construction practices.	No Mapping

6.8 Students will apply the IBC and IRC building code manuals and standards. No Mapping

7: Students will apply principles of building codes, regulations, and ethics in architectural practice

Outcome	Mapping
7.1 Students will apply appropriate federal, state/provincial, and local codes.	No Mapping
7.2 Students will apply appropriate standards and accessibility guidelines.	No Mapping
7.3 Students will explain why bid shopping is unethical.	No Mapping
7.4 Students will explain why front-end loading is unethical.	No Mapping

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