

Assessment Plan -- Program Level

Program: Architectural Engineering, BSc

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Program Mission Statement: To provide a high quality engineering education within a liberal arts context to students from Egypt as well as from other countries. The aim is to produce generations of construction engineers and architects who will be leaders in their profession. The pursuit of excellence is central to the department's mission, maintaining high standards of academic achievement, professional behavior, and ethical conduct.

Program Goal: The goal of the Architectural Engineering program is to train architects who can lead the architectural profession into the digital age while respecting the local heritage, especially Egypt and the Middle-East. The program promotes the implementation of the latest advances in Information and Communication Technology (ICT), stresses the rich local and historical context, and incorporates construction engineering and professional contents which respond to the needs of the industry. It embraces the liberal arts approach to education through its multidisciplinary nature.

Program Outcomes	Is this a student learning outcome ?	Learning Opportunities: <i>What courses or experiences provide students with the (primary) opportunity to achieve this outcome?</i>	Assessment Methods/Measures: <i>List the direct and indirect methods you will use to measure how well students are achieving this outcome.</i>	Target Levels/ Benchmarks	When Will Assessment Be Conducted and Reviewed?	How Will Results Be Used and Communicated?
1. The ability to think critically and creatively in a divergent context while integrating knowledge to reach a design solution.	✓	ENGR 101, AENG 351, 352, 453, 454, 455, 456, 490, 491	1. Faculty course assessment 2. Student course outcomes assessment	Seven of the eight tools (1-7) have an associated metric and a plan that is used to determine if actions are required when metrics are not met. The placement of graduates (#8) is used as an indicative measure to reflect the demand on our graduates in the working market.	1. Every semester 2. Every semester in course report, evaluated during the short cycle.	The department Architecture Committee meets on a regular basis every semester to discuss and evaluate the available results based on the cycles.
2. The ability to raise appropriate questions, use abstract ideas, consider diverse points of view, and reach appropriate conclusions, as an individual and collaboratively- and to design accordingly.	✓	AENG 351, 352, 453, 454, 455, 456, 490, 491	3. Senior exit survey 4. Alumni survey 5. Industrial training employer questionnaires		3. Every semester 4. Every three years	If the analysis of responses for survey questionnaires or comments indicate a warning, the Committee will take the following actions.
3. The ability to design with the understanding of formal ordering systems, design theory and architectural precedent.	✓	AENG 321, 220, 352, ARTV 314, ARIC 206, EGPT 202	6. Employer survey 7. Industrial Advisory Board meeting minutes and input	1. Faculty and students course outcomes assessments will be included in the course report. An assessment by performance tool is employed by faculty members to ascertain outcome achievement through homework, tests, exams, projects, and	5. Every semester 6. Every three years 7. Every year 8. Every three years, during the medium cycle.	
4. The ability to communicate ideas verbally (oral and written), graphically, 3-dimensionally and numerically while utilizing manual and ICT tools to develop, present, and assess design.	✓	ENG 115, ARTV 201, AENG 273, 473, 490, 491	8. Placement of graduates			1. The Committee will relay raised concerns to the Department Chair. The Department

5.. The ability to design with the knowledge, and in the context of- historical, social, cultural, and heritage issues- in order to provide for society as a whole as well as for specific user's needs, with an awareness of issues such as equity and access .	✓	AENG 334, 321, 456, ARTV 314, ARIC 206, EGPT 202
6. The ability to design with an understanding of the links between architecture and other creative disciplines	✓	ARTV 314, 201, AENG 420
7. The ability to design with the knowledge, and in the context of, social responsibilities and legal obligations- code of ethics, building bylaws and social awareness.	✓	AENG 334, 496, 497, 441, 456, CENG 441
8. The ability to design informed by the understanding of various sustainability issues- ecological, economical and social and integrate them as generative principles in the design process.	✓	AENG 326, 453, 426, 368, 468, ENGR 445
9. The ability to design with a knowledge of technical issues such as structure, materials, building techniques and building systems, and integrate them as generative principles in the design process	✓	ENGR 212, 229, CENG 302, 305, 306, 323, AENG 423, 426, 428, 429
10. The ability to integrate and communicate technical issues such as structure, materials, building techniques and building systems, through appropriate technical documentation, using manual and ICT tools.	✓	AENG 423, 426, 428, 429, 273, 473
11. The ability to act with the knowledge of the role of architectural design in the construction industry, and to design accordingly.	✓	CENG 441, AENG 423, 441, 496, 497

- reports. Instructors will be using established metrics included in the course assessment matrix form. Actions taken, if any, by the course instructor in response to the course outcomes assessment are included in the course report and filed in the course journal.
- The metric for questionnaire of surveys, conducted during the short assessment cycles is intended to create a two-stage warning system. An average response from any constituent group on individual questions less than three on a five assessment scale would initiate a *concern* and results will be flagged by the departmental committee. An average response of less than three on a five assessment scale in two consecutive questionnaire surveys for the same question(s) would indicate a *warning*
 - The metric for questionnaire of surveys conducted during the long assessment cycle as well as comments in all surveys and meetings is intended to develop a single stage

- Chair in consultation with faculty concerned with the raised issues will draft an action plan that is intended to deal with the specific warning(s).
- The action plan will be presented to the department faculty for discussion and revision if necessary.
 - The action plan, once approved by the department faculty, will be implemented.

12. The ability to act with the knowledge of professional, managerial, business & financial contexts, and to design accordingly.	✓	ENGR 345, CENG 441, AENG 441, AENG 429
13. The ability to act with leadership and with the knowledge of ethical and legal contexts, and to design accordingly.	✓	CENG 441, AENG 441, AENG 429

warning system. A statistically meaningful number of specific negative comments would indicate a *warning* and would initiate action procedures.