



## **1. Program Mission**

The Benha faculty of Engineering Construction Engineering and Management program aims to develop the skills and knowledge students need to successfully complete construction projects on time and on budget while adhering to construction standards and safety guidelines within human values and social responsibility. Graduates will have sufficient knowledge and skills to develop their postgraduate research skills and find employment in the commercial, design-build, and residential sectors of the construction industry.

## **2. Program Objectives**

The objectives of the BSc in The Construction Engineering and Management program are to enable its graduates to:

**PO1.** Apply a wide spectrum of engineering knowledge, science, and specialized skills with analytic, critical, and systemic thinking to identify and solve engineering problems in real-life situations.

**PO2.** Behave professionally, adhere to engineering ethics and standards, and work to develop the profession and community and promote sustainability principles.

**PO3.** Work in and lead a heterogeneous team and display leadership qualities, business administration, and entrepreneurial skills.

**PO4.** Master self-learning and life-long learning strategies to communicate effectively in academic/professional fields.

**PO5.** Apply analytical, experimental, design, construction engineering techniques and project management skills with proficiency aided by modern tools.

**PO6.** Graduate a postgraduate student who has the necessary scientific knowledge and innovative thinking needed for the Construction engineering and management engineering field.



### **3. Graduates Attributes**

By the completion of the Construction Engineering and Management program of study, and according to NARS 2018, the graduate will be capable to:

- 1.** Master a wide spectrum of engineering knowledge and specialized skills and can apply acquired knowledge using theories and abstract thinking in real-life situations.
- 2.** Apply analytic critical and systemic thinking to identify, diagnose and solve engineering problems with a wide range of complexity and variation.
- 3.** Behave professionally and adhere to engineering ethics and standards.
- 4.** Work in and lead a heterogeneous team of professionals from different engineering specialties and assume responsibility for own and team performance.
- 5.** Recognize his/her role in promoting the engineering field and contribute to the development of the profession and the community.
- 6.** Value the importance of the environment, both physical and natural, and work to promote sustainability principles.
- 7.** Use techniques, skills, and modern engineering tools necessary for engineering practice.
- 8.** Assume full responsibility for own learning and self-development, engage in lifelong learning and demonstrate the capacity to engage in post-graduate and research studies.
- 9.** Communicate effectively using different modes, tools, and languages with various audiences; to deal with academic/professional challenges in a critical and creative manner.
- 10.** Demonstrate leadership qualities, business administration, and entrepreneurial skills.

In addition to all engineering graduate attributes defined by NARS 2018, Construction and Management engineering graduates should be able to:

- 11.** Identify the essential construction processes technologies techniques, Properties, behavior & fabrication of construction materials.
- 12.** Master Projects management, including planning, finance, bidding, contract procedures, cost estimators, and quality systems.
- 13.** Use the different analytical and computational methods that can be applied to the various areas of construction and building engineering.