

أهداف برنامج هندسة الاتصالات والإلكترونيات – Program Aims

1. تطبيق المعرفة بالرياضيات والعلوم الأساسية والمبادئ الهندسية لحل وتحليل وتفسير البيانات المتعلقة بمجموعة واسعة من مشاكل هندسة الإلكترونيات والاتصالات.
2. تصميم نظام أو مكون أو عملية لتلبية الاحتياجات المطلوبة ضمن قيود واقعية مثل القيود الاقتصادية والبيئية والاجتماعية والسياسية والأخلاقية والصحة والسلامة وقابلية التصنيع والاستدامة.
3. العمل في فرق متعددة التخصصات و القدرة على قيادة الفريق و إظهار الصفات القيادية والمهارات الإدارية ومهارات تنظيم المشاريع.
4. استخدام التقنيات والمهارات والأدوات الهندسية الحديثة اللازمة للممارسة الهندسية وأحدث التطورات في تطبيقات هندسة الاتصالات والإلكترونيات.
5. تأثير الحلول الهندسية على السياق العالمي والاقتصادي والبيئي والمجتمعي.
6. تطبيق نظرية التحكم ومبادئ القياس للمتغيرات الصناعية وتحويل الإشارات والتكليف والمعالجته والتعامل مع أجهزة الكمبيوتر والبرمجيات وأنظمة التشغيل والواجهات.
7. تحليل وتصميم وتنفيذ التكنولوجيا في مجال وصلات الاتصالات بما في ذلك أنظمة الاتصالات عبر الأقمار الصناعية والألياف الضوئية والمتنقلة.
8. تصميم وتنفيذ وتشغيل أنظمة الاتصالات الرقمية والتناظرية.
9. إتقان استراتيجيات التعلم الذاتي و التعلم المستمر للتواصل بفعالية ، باستخدام أنماط وأدوات ولغات مختلفة للتعامل مع التحديات الأكاديمية / المهنية بطريقة نقدية وإبداعية.

Program Aims:

1. Apply knowledge of mathematics, basic sciences and engineering principles to solve, analysis, and interpret data related to a wide spectrum of electronics and communications engineering problems.
2. Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
3. Function on multidisciplinary teams and display leadership qualities, managerial skills and entrepreneurial skills and lead quality improvement projects.
4. Use techniques, skills, and modern engineering tools necessary for engineering practice and latest development in electronics and communications engineering applications.
5. Study the effects of engineering solutions on society and the environment.
6. Apply control theory and measurement principals for industrial variables, signal conversion, conditioning, processing and deal with the computer hardware, software, operating systems and interfacing.
7. Analyze, design and implement the technology in the field of communication links including satellite, optical fiber, mobile communication systems and operating systems and interfacing.
8. Design, implement and operate digital and analog communication systems.
9. Master self-learning and life -long learning strategies to communicate effectively using different modes, tools, and languages to deal with academic/professional challenges in a critical and creative manner.

موصفات الخريج (NARS2018)Attributes Program

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 in 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.

Matrix: Graduate Attributes with Program Aims

مصفوفة أهداف البرنامج مع مواصفات الخريج

| Graduate Attributes | Program Aims |
|---|---|
| 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; | 1) Apply knowledge of mathematics, basic sciences and engineering principles to solve, analysis, and interpret data related to a wide spectrum of electronics and communications engineering problems. |
| 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; | 2) Behave professionally and adhere to engineering ethics and standards and work to develop the profession and the community and promote sustainability principles |
| 4. Work in and lead a heterogeneous team of professionals from different engineering specialties and assume responsibility for own and team performance; | 3) Function on multidisciplinary teams and display leadership qualities, managerial skills and entrepreneurial skills and lead quality improvement projects. |
| 5. Recognize his/her role in promoting the engineering field and contribute in the development of the profession and the community; | 4) Use techniques, skills, and modern engineering tools necessary for engineering practice and latest development in electronics and communications engineering applications. |
| 6. Value the importance of the environment, both physical and natural, and work to promote sustainability principles; | 5) Study the effects of engineering solutions on society and the environment. |
| | 6) Apply control theory and measurement principals for industrial variables, signal conversion, conditioning, processing and deal with the computer hardware, software, operating systems and interfacing. |
| 7. Use techniques, skills and modern engineering tools necessary for engineering practice; | 7) Design, implement and operate digital and analog communication systems. |
| 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; | 8) Master self-learning and life -long learning strategies to communicate effectively using different modes, tools, and languages to deal with academic/professional challenges in a critical and creative manner. |
| 9. Communicate effectively using different modes, tools and languages with various audiences; to deal with academic/professional challenges in a critical and creative manner; | 9) Lead, manage, and communicate effectively with designers and site engineers using different tools and principles to meet society's requirements of occupational health, safety, and engineering quality standards. |
| 10. Demonstrate leadership qualities, business administration and entrepreneurial skills. | |

