

Sample of Work for Each Field of Study

Program	Field of Study	Samples of Work
Mechanical Engineering	-	Design, construct, install, control, maintain, and improve mechanical tools, mechanism, machines, and mechanical systems, e.g., energy generating systems, cooling/heating systems, air conditioning systems, combustion systems, heat exchanging systems, and material handling systems.
Civil Engineering	<ol style="list-style-type: none"> 1. Construction Engineering Management 2. Material Engineering 3. Soil Engineering 4. Structural Engineering 5. Surveying Engineering 6. Transportation Engineering 7. Water Resources Engineering 	Construction supervising of roads, bridges, buildings, surveying, etc. Engineering designs and cost estimation.
Industrial Engineering and Logistics Systems	1. Industrial Engineering	Planning and controlling production and inventory, improvement of quality, plant layout, standard time determination, safety engineering, cost reduction, productivity improvement, and systems simulation.
	2. Manufacturing Engineering	Improvement of production systems, computer aided design, manufacturing automation, metrology, and maintenance engineering.
Chemical Engineering	-	Planning, designing and controlling production processes. Plant layout and improving of the quality for chemical products, e.g. fine chemicals, petrochemicals, polymers, textiles, food and pharmaceutical products.
Electrical Engineering	1. Power Engineering	Study of the generation, transmission, distribution, and utilization of electrical power. Renewable energy and energy management systems. Design, development, installation, testing, and maintenance of electrical equipment, power systems, and smart grid technology. Evaluation of system safety, reliability, and performance
	2. Communication Engineering	Study of communication and networking systems. Design, development, installation, testing, and maintenance of communication and networking systems. Selection of appropriate communication systems to meet customer demands. Development of communication related software. Prototyping of communication equipment. Signal processing and analysis. Design and development of embedded and control systems.
Engineering Management	-	Planning and scheduling of production, inventory management, quality management, market planning, economic analysis, management information systems, and decision support systems.
Management Technology	1. Management Information Systems	Database management, decision support systems, management science, computer networks, internet applications, project management, System Analysis and Design, and Information System Development.
	2. Supply Chain Management	Planning and scheduling of production, inventory management, market planning, economic analysis, management information systems, database management, decision support systems, and optimization.
Digital Engineering (Effective 3/2021 onwards)	-	Software development, System analysis and design, Web design and web-based application development, Management Information System development and administration, E-Commerce system development and E-Commerce related business model design. Database and data administration, Computer games development, Animation and computer graphics design. Network system design, installation, and administration. Server installation and administration. Microprocessor-based system design and development. UX/UI interface design and development. Test Engineering such as test cases development. IoT, Web and Mobile Applications Development
Computer Engineering	-	Computer architecture, Cybersecurity, Networking, Design automation, Machine intelligence, Operating system design and development, Compiler design and development, Computer software development, Robot development, Automated system design and development, Embedded systems design and development, Client-server system design and development, Distributed system design and development, Cloud computing design and development, Concurrent system design and development