

Programme Outcomes (POs)

The Programme Outcomes are presented in Table 1.

Table 1: Programme Outcomes

O1	Engineering knowledge - Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of developmental and complex engineering problems
O1.1	Demonstrate ability to identify and apply knowledge and technics in mathematics, science, and engineering to solve engineering problems.
O2	Problem Analysis – Identify, formulate, research literature and analyze developmental and complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
O2.1	Demonstrate ability to solve problems by concepts through the integration of mathematics, science and engineering.
O2.2	Demonstrate skill in identifying vital information from resources in solving problems.
O2.3	Demonstrate skill and appropriate technique and ingenuity in solving developmental or engineering problems.
O3	Design/Development of Solutions - Proffer solutions for developmental or complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations
O3.1	Demonstrate understanding of the impact of engineering decisions and solutions to societal issues.
O3.2	Demonstrate understanding of solutions to cultural diversity based on our local context in Nigeria.
O3.3	Demonstrate knowledge of the implications of engineering designs and solutions to the public health and safety of all.
O4	Investigation - Conduct investigation into developmental or complex problems using research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

O4.1	Demonstrate ability to appropriately set-up and conduct experiment to understand and extract underlining and fundamental principles.
O4.2	Demonstrate ability to apply statistical tools in designing and analyzing experiments.
O4.3	Demonstrate skill in applying the appropriate research method in solving engineering problems.
O5	Modern Tools Usage - Create, select and apply appropriate techniques, resources and modern engineering and ICT tools, including prediction, modelling and optimization to developmental and complex engineering activities, with an understanding of the limitations.
O5.1	Demonstrate an understanding of the inherent limitations of software (application) tools, and analytical and numerical techniques.
O5.2	Demonstrate ability to identify and apply appropriate technique in investigating and solving problems of engineering relevance.
O5.3	Demonstrate capability and proficiency in using modern and ICT tools to solve engineering problems.
O6	The Engineer and Society - Apply reasoning informed by contextual knowledge including Humanities and Social Sciences to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice
O6.1	Demonstrate awareness of legal implications of professional engineering practice.
O6.2	Demonstrate understanding of the required contribution of engineers to the society.
O7	Environment & Sustainability - Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development
O7.1	Demonstrate an understanding of the impact of engineering solutions on the society and environment.
O7.2	Demonstrate ability to recognize and evaluate the ethical dilemmas that may arise in the workplace.
O8	Ethics - Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice, including adherence to the COREN Engineers Code of Conduct.

O8.1	Demonstrate knowledge and understanding of the COREN Engineers Code of Conduct.
O8.2	Demonstrate ability to apply professional responsibilities and norms of engineering practice.
O8.3	Demonstrate understanding and appreciation of diversity.
O9	Individual & Team Work - Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
O9.1	Demonstrate knowledge and understanding in completing set goals and plan tasks
O9.2	Demonstrate understanding in apply, using skills acquired to examine and adopt ideas as a member or team lead
O9.3	Demonstrate the ability to work with other engineering discipline or multi-disciplinary settings
O10	Communication - Communicate effectively on developmental or complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
O10.1	Demonstrate the skills to communicate within the engineering society and outside engineering profession
O10.2	Demonstrate the ability to make presentations and be able to communicate the society at large
O10.3	Demonstrate the ability to use appropriate presentation medium for proper communication and receive clear instructions
O11	Project Management & Finance - Demonstrate knowledge and understanding of engineering, management and financial principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multi-disciplinary environments
O11.1	Demonstrate the ability to conduct, manager and execute projects in multi-disciplinary areas
O11.2	Demonstrate the ability to work within the budget when executing a project for proper management
O11.3	Demonstrate recognition or the skills needed for project management
O12	Lifelong Learning - Recognize the need for, and have the preparations and ability to engage in independent and lifelong learning in the broadest context of technological and social changes

O12.1	Demonstrate the ability to learn new technology or techniques that will be used for solving life problems and professional development activities
O12.2	Demonstrate the ability to apply knowledge acquired from teaching, professional journals and industry publications to improve processes and systems

All the twelve programme outcomes are coded PO1 – PO12 and were mapped to the programme educational objectives coded PEO1 – PEO5 in Table 2.2.

Table 2.2: Link between the programme outcomes and the programme educational objectives

	PEO1	PEO2	PEO3	PEO4	PEO5
PO1: Engineering knowledge	•	•	•	•	•
PO2: Problem Analysis	•	•	•		
PO3: Design /development of solutions	•	•	•	•	•
PO4: Investigation		•	•		
PO5: Modern Tool Usage	•	•	•	•	•
PO6: The Engineer and Society	•		•		
PO7: Environment & Sustainability	•			•	•
PO8: Ethics	•		•		
PO9: Individual and Team work	•			•	•
PO10: Communication	•	•			
PO11: Project Management and Finance	•	•		•	
PO12: Lifelong learning		•		•	