

**BS Civil Engineering Program**  
**Student Outcomes**

Upon graduation, the students should be able to:

- SOa:** Apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems;
- SOb:** Conduct investigations of complex engineering 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;
- SOc:** Design solutions for 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;
- SOd:** Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings;
- SOe:** Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences;
- SOf:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice;
- SOg:** Communicate effectively on 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;
- SOh:** Understand and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental context;
- SOi:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change;
- SOj:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems;
- SOk:** Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems with an understanding of the limitations;
- SOl:** Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments;
- SOm:** Understand at least one specialized field of Civil Engineering Practice;
- SON:** Practice Christian values in their personal and professional endeavors as Louisians in the service of the CICM mission.