ENGINEERING

ENGR 110 Introduction to Programming **3 Credits**
Grade Mode: Standard Letter, Audit/Non Audit

Through this course, students will explore major issues related to the "big ideas" of computational thinking and solve the problem using Python, which emphasizes computing, software development, style, and testing principles. Topics include the representation of ideas with bits, basic Boolean logic, and devices to implement logic functions as the first part. The second part contains procedures and functions, iteration, recursion, arrays and vectors, strings, an operational model of procedure and function calls, algorithms, exceptions, and object-oriented programming. Weekly labs provide guided practice on the computer, with staff present to help. Assignments use procedural code and algorithms to help develop fluency and understanding of the programming language.

ENGR 125 AI Literacy and Critical Thinking **3 Credits**
Grade Mode: Standard Letter, Audit/Non Audit

This course introduces students to the fundamentals of Artificial Intelligence (AI) and fosters critical thinking skills. Students will learn about the basic concepts, applications, and ethical considerations of AI technology. The course emphasizes developing AI literacy, enabling students to understand and analyze AI's impact on society, industry, and daily life. Through discussions, case studies, and hands-on projects, students will enhance their ability to think critically about AI-related issues, evaluate information sources, and make informed decisions in an AI-driven world.

ENGR 130 Sustainable Cities and Urban Mobility **3 Credits**
Grade Mode: Standard Letter, Audit/Non Audit

This course explores the principles and practices of designing sustainable cities and improving urban mobility. Students will examine the challenges and solutions related to urbanization, transportation, and environmental sustainability. Key topics include sustainable urban planning, green infrastructure, public transportation systems, and smart city technologies. Emphasis will be placed on integrating environmental, economic, and social considerations in urban development. Through case studies, projects, and interactive discussions, students will learn to develop innovative strategies for creating livable, resilient, and efficient urban environments.

ENGR 210 Introduction to Innovations and Technology Entrepreneurship **1 Credit**
Grade Mode: Standard Letter

ENGR 482 Engineering Ethics **3 Credits**
Grade Mode: Standard Letter, Audit/Non Audit

This course teaches the fundamentals of ethics as they apply to engineering disciplines. It provides students with the foundational skills to reflect on their solutions' and inventions' impact on society critically and work for the greater good of humanity. This is of particular importance in today's data- and AI-driven world of automated decision-making.