

Pre-Engineering AS Curriculum Map											General Education Essential Skills				
This curriculum map is designed to show how program learning outcomes are introduced, developed, and mastered across courses in the program. Use the following guidance when completing or reviewing the map: Introduced: Indicates the course provides students with their first exposure to a concept or skill. At this stage, students are expected to demonstrate only a basic understanding. Developed: Indicates that students gain more in-depth knowledge, practice, and reinforcement of the concept or skill. Students are expected to begin applying what they have learned with increasing independence. Mastered: Indicates that students can independently and skillfully apply the outcome, demonstrating a high level of understanding and competence appropriate for graduation and entry into the workforce or a 4-year institution.											Each degree program at Luna contains an integrated core of general education requirements. This core ensures that Luna graduates possess the expected literacy and general knowledge to function well in the workforce, to pursue further education and to participate in the cultural and political life of the local community and the larger society.				
Courses are listed in rows and PLOs are in columns	Graduates will possess a solid foundation of knowledge in core engineering disciplines, including mathematics, physics, chemistry, and computer science, providing them with a strong basis for further studies in engineering.	Graduates will develop strong problem-solving and critical-thinking skills, applying analytical reasoning and innovative approaches to solve complex engineering problems and design challenges.	Students will develop a strong foundation in mathematics, including calculus, linear algebra, and differential equations, essential for solving engineering problems and modeling real-world situations.	Students will gain a comprehensive understanding of physics and chemistry principles, applying them to analyze and solve engineering problems related to mechanics, electromagnetism, thermodynamics, and material properties.	Students will develop strong problem-solving and critical-thinking skills, applying logical reasoning and analytical abilities to tackle complex engineering challenges and design innovative solutions.	Students will demonstrate effective technical communication skills, both orally and in writing, to present engineering ideas, designs, and reports clearly and professionally.	Students will work collaboratively in teams, demonstrating the ability to communicate, cooperate, and contribute effectively to achieve shared engineering objectives.	Students will understand the ethical responsibilities of engineers, adhering to professional codes of conduct, and recognizing the social and environmental impact of engineering solutions.	Students will utilize engineering software and simulation tools to analyze and evaluate complex engineering systems, making informed decisions based on data and simulations.	Students will learn project management principles and practices, developing skills to plan, organize, and execute engineering projects efficiently, considering budget, resources, and timelines.	Communication	Critical Thinking	Information and Digital	Quantitative Reasoning	Personal and Social Responsibility
BCIS1110 Introduction to Information Systems	Introduced	Introduced	Introduced	Introduced	Introduced	Introduced	Introduced	Introduced	Introduced	Introduced					
CS105 Introduction to Computer Science	Developed	Introduced	Introduced	Introduced	Introduced	Introduced	Introduced	Introduced	Introduced	Introduced					
CS121 Introduction to Programming	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed					
MATH1230 Trigonometry	Developed	Introduced	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed					
MATH1510 Calculus I	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed					
MATH2530 Calculus II	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed					
STEM117 Introduction to Engineering	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed	Developed					
STEM250 STEM Capstone	Mastered	Mastered	Mastered	Mastered	Mastered	Mastered	Mastered	Mastered	Mastered	Mastered					
Gen Ed Courses											Five essential skills are associated with each of six content areas, as shown in the table below				
Area I – Communication: ENGL 1110 Composition I; ENGL 1120 Composition II; COMM 1130 Public Speaking; COMM 2120 Interpersonal Communication Area II – Mathematics: MATH 1350 Statistics; MATH 1220 College Algebra Area III – Laboratory Science: BIOL 1110 General Biology; BIOL 1140 Biology for Health Sciences; BIOL 2110 Principles of Biology; Cell & Molecular Biology; BIOL 2310 Microbiology; BIOL 2210 Human Anatomy & Physiology I; BIOL 2225 Human Anatomy & Physiology II; CHEM 1120 Introduction to Chemistry; CHEM 1215 General Chemistry I; CHEM 1226 General Chemistry II; ENVS 1110 Environmental Science; GEOL 1110 Physical Geology; GEOL 2110 Historical Geology; PHYS 1115 Survey of Physics; PHYS 1230 Algebra-based Physics I; PHYS 1240 Algebra-based Physics II; PHYS 1310 Calculus-based Physics I; PHYS 1320 Calculus-based Physics II Area IV – Social and Behavioral Sciences: ANTH 1115 Introduction to Anthropology; ANTH 1141 Cultures of the World; ECON 2110 Macroeconomics Principles; ECON 2120 Microeconomics Principles; POLS 1120 American National Government; POLS 2160 State and Local Government; PSYC 1110 Introduction to Psychology; PSYC 2120 Developmental Psychology; SOCI 1110 Introduction to Sociology Area V – Humanities (AA & AS) / Flex (AAS): ENGL 2610 American Literature I; ENGL 2310 Introduction to Creative Writing; ENGL 2380 Introduction to Short Fiction; ENGL 2620 American Literature II; HIST 1150 Western Civilization I; HIST 1160 Western Civilization II; HIST 1110 United States History I; HIST 1120 United States History II; HIST 2110 Survey of History of New Mexico; PHIL 1110 Introduction to Philosophy; RELG 2115 World Religions; SPAN 1110 Spanish I; BCIS 1110 Introduction to Information Systems; MATH 1215 Intermediate Algebra Area VI – Creative and Fine Arts: ARTS 1610 Drawing I; ARTH 1120 Introduction to Art; ARTH 2110 History of Art I; MUSC 1130 Music Appreciation: Western Music; THEA 1220 Beginning Acting											X	X	X		
											X	X		X	
												X		X	X
											X	X			X
												X	X		X
											X	X			X