# Engineering

## AS (60 SCH*)

*Semester Credit Hour

## First Semester - 17 SCH
- ENGL 1301 - Composition I
- MATH 2413 - Calculus I
- HIST 1301 - United States History I
- CHEM 1411 - General Chemistry I
- EDUC/PSYC 1300 - Learning Framework

## Second Semester - 16 SCH
- ENGL 1302 - Composition II
- MUSI 1306 - Music Appreciation
- HIST 1302 - United States History II
- MATH 2414 - Calculus II
- COSC 1336 - Programming Fundamentals I

## Third Semester - 14 SCH
- MATH 2415 - Calculus III
- ECON 2301 - Principles of Macroeconomics
- GOVT 2305 - Federal Government
- PHYS 2425 - University Physics I

## Fourth Semester - 13 SCH
- MATH 2320 - Differential Equations
- HIST 2321 - World Civilization I
- GOVT 2306 - Texas Government
- PHYS 2426 - University Physics II

## Marketable Skills
- Knowledge of the practical application of engineering and science.
- Knowledge of raw materials, production processes, quality control.
- Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, and models.
- Knowledge of algebra, geometry, calculus, statistics, and their applications.
- Knowledge of circuit boards, processors, chips, electronic equipment, electrical systems, and computer hardware and software, including applications and programming.
- Knowledge and prediction of physical principles, laws, their inter-relationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.

## Program Outcomes
- Demonstrate mastery of the processes of science, the scientific method and established scientific knowledge.
- Demonstrate knowledge of basic terminology and understanding of major physical science concepts.
- Use appropriate laboratory techniques and equipment safely and proficiently.

## Transfer Path/Requirements
For Texas A&M-Commerce
- A student completing the Paris Junior College curriculum is considered Core complete at Texas A&M-Commerce.
- No more than 60-66 SCH from PJC will be applied to a bachelor degree at TAMU-Commerce. Another 60 or more must be completed at TAMU-Commerce.
- For the Engineering major, several advanced courses are required by TAMU-Commerce: ENGR 210 (Engineering Mechanics) plus courses in statistics, management, computing, and systems engineering. Many courses will be specific to the engineering track chosen.
- Required support courses include differential equations, linear algebra and calculus 3.

## High School Endorsements
- STEM

## Expected Salary
- **Texas wage data:** workers on average earn $96,300; 10% of workers earn $59,410 or less; 10% of workers earn $161,080 or more.
- **US wage data:** workers on average earn $88,950; 10% of workers earn $57,950 or less; 10% of workers earn $136,930 or more.

## Career Opportunities
- **BS Minimum:** Aerospace Engineers; Industrial Engineers (including health and safety); Agricultural Engineers; Marine Engineers; Naval Architects; Biomedical Engineers; Materials Engineers; Chemical Engineers; Mechanical Engineers; Civil Engineers; Mining/Geological Engineers; Computer Hardware Engineers, Drafters, Engineering and Mapping Technicians. **MS Minimum:** Nuclear Engineers; Electrical/Electronics Engineers; Petroleum Engineers; Environmental Engineers; Engineers (all other).