Technology (TECH)

Courses

**TECH 1002 Engineering and Technology Seminar: 2 semester hours.**
Introduction to the engineering, technology, architecture and computer science fields of study. The history and development of technology and how it affects multi/interdisciplinary studies. Scope and future of the fields of study and examination of the role of professionals in a highly technological society. Content designed especially for assisting students in learning to cope successfully in various interdisciplinary fields of study.

**TECH 1033 Engineering Graphics: 3 semester hours.**
Introduction to graphics with emphasis on drafting techniques: use of instruments, lettering, geometric construction, multi view projections, auxiliary and sectional views, dimensioning, and pictorial drawings.

**TECH 1113 Communication Technology: 3 semester hours.**
A study of the technologies employed in the communication process. Topics include: the various technical communication systems, introduction to graphics communication, electronic and telecommunication systems and satellite systems.

**TECH 1123 Introduction to Technology: 3 semester hours.**
Provides students an opportunity to explore and experience a large variety of tools, materials, and processes associated with technology. Designed to assist individuals in identifying their areas of interests. Topics such as communications technology, energy technology, production technology, computer applications, research and development are included.

**TECH 1243 Production Technology: 3 semester hours.**
A study in the production and planning; design and installation of integrated systems of materials, equipment and personnel; and measurement, testing and management of quality control in the manufacturing and construction industries. Prerequisites: TECH 1123 (http://catalog.pvamu.edu/search/?P=TECH%201123).

**TECH 2003 Basic Computer Automated Manufacturing: 3 semester hours.**
An introductory study of Computer Integrated Manufacturing with emphasis on how subsystems apply to manufacturing applications. The integration of robotics, computers and other machines will be emphasized. Prerequisite: Department Head approval.

**TECH 2103 Computer-Aided Drafting II: 3 semester hours.**
This course is a continuation of TECH 1103. Use of microcomputers to generate complex engineering drawings and designs. Advanced techniques for data input and drawing generation. Dimensioning, data base management, preparation of isometric drawings and introduction to 3D drawings, and plotting techniques.

**TECH 2163 Architectural Drafting: 3 semester hours.**
Application of basic drafting of architectural working drawings to plans and sections and elevations. Building details are studied using standard components obtained from such references as Sweet's Catalog and Architectural Graphic Standards.

**TECH 2303 Photography I: 3 semester hours.**
A study of the equipment, procedures, and processes that make photographs and of the ability to communicate through this medium. Instruction encourages competency development. Covers advanced scientific principles of optics, theory of light, camera handling, composition, film processing, print finishing, and photographic evaluation.

**TECH 2313 Quality Assurance: 3 semester hours.**
An introduction to the concepts of applied quality control systems. This course deals with the problems and solution of how to achieve better quality in the production and manufacturing of products or systems. Topics covered include quality responsibility, control chart methods, sampling techniques, and reliability applications as they relate to engineering and technical products or systems.

**TECH 3004 Principles of the Computer Integrated Manufacturing System: 4 semester hours.**
A study of techniques of computer integrated manufacturing. Topics will include principles of automation in manufacturing, programmable automation based machines and the integration of robotics and CNC machines into the CIM system. Prerequisites: TECH 2003 (http://catalog.pvamu.edu/search/?P=TECH%202003).

**TECH 3013 Industrial Design: 3 semester hours.**
Introduction to industrial design. Includes the creative process, objectives of design, standard parts and materials commonly used, and basic manufacturing practices to create useful products.

**TECH 3103 Manufacturing Processes: 3 semester hours.**
An analysis of activities related to the production and distribution of goods and services. Instruction includes materials processing, management, and the free enterprise system.

**TECH 3113 Energy and Power Technology: 3 semester hours.**
Considers techniques employed for using and controlling energy to perform work. A study of the generation, conversion transmission, control and use of power. Instruction includes exploration in mechanical, pneumatics, and fluid power.
**TECH 3123 Technology of Materials**: 3 semester hours.
A study of tools, materials and processes common to wood, metals, plastics, and composites industries. Practical applications in the use and shaping of these materials into useful products. Including application and use of CNC machines.

**TECH 3203 Engineering and Technical Communications**: 3 semester hours.
Oral and written presentations and documentations that focus on scientific and technical communications. Intended for professionals preparing for basic and applied sciences, engineering and technology fields of study. Emphasizes principles and use rather than use - it offers functional explanations rather than formal rules.
Prerequisites: ENGL 1133 (http://catalog.pvamu.edu/search/?P=ENGL%201133) or ENGL 1143 (http://catalog.pvamu.edu/search/?P=ENGL%201143).

**TECH 3223 Electromechanical Drafting**: 3 semester hours.
Electrical and electronic graphic symbols and terminology. Study of the basic types of electronic drawing block, single line, and schematic lines. Layout and development of mechanical chassis and housings are included.

**TECH 3233 Industrial Management and Supervision**: 3 semester hours.
Principles of industrial management and supervision. Study of industrial organization, production and quality control, plant layout and planning, manufacturing cost analysis, and time and motion.

**TECH 3383 Pipe Drafting**: 3 semester hours.
Vocabulary and definition of pipe drafting. Fundamental pipe symbols and single line drawings, including standard equipment and fittings. Dimensioning and isometric pipe drafting. Study of flow sheets as related to piping systems and structural systems for pipe supports.

**TECH 4072 Senior Project I**: 2 semester hours.
This is the first part of a two part senior project course for technology majors. Students will be involved with a special project selected by the student or advisor. Consideration is given to taking a project from the planning stage to implementation.

**TECH 4082 Senior Project II**: 2 semester hours.
Continuation of TECH 4072 (http://catalog.pvamu.edu/search/?P=TECH%204072). Students will complete the project. An oral presentation and written report are required.
Prerequisites: TECH 4072 (http://catalog.pvamu.edu/search/?P=TECH%204072).

**TECH 4103 Advanced Computer Aided Design**: 3 semester hours.
A special problems course in which students may use various CAD software to design and to develop standard engineering documentation to meet specific applications. Students will develop skill in the management of the total CAD system with emphasis on team work in the work environment.

**TECH 4113 CAD Programming and Customization**: 3 semester hours.
An advanced class designed to provide instruction in techniques of designing and customizing CAD programs to specific needs. Topics will include a study of languages and software, techniques of enhancing CAD software, and programming and customization techniques.

**TECH 4123 Manufacturing Technology Problems**: 3 semester hours.
A class for advanced students wanting to study problems in manufacturing technology. Courses may be repeated for additional 3 hour credit with in-depth extension of previous problem class.

**TECH 4273 Industrial Safety Management**: 3 semester hours.
A comprehensive, in-depth study of accident prevention and safety administration, emphasizing management aspects of safety. This course uses the most recently developed techniques for implementation of successful accident prevention techniques.

**TECH 4303 Construction Processes**: 3 semester hours.
A study of the construction industry. Instruction includes a managed production system study in which roads, tunnels, bridges, dams, and buildings are produced and serviced on the site. Experiences are provided in planning, site preparation, scheduling work, contracting, construction of a structure, support systems, and assembling models.

**TECH 4313 Transportation Systems**: 3 semester hours.
A study of transportation systems. An analysis of transportation in terms of land, sea, air, and aerospace vehicles. An analysis of the factors which affect design, safety, materials, control and ecological effects of transportation systems.

**TECH 4403 Machine Drafting**: 3 semester hours.
A study of working drawings as applied to the machine shop with emphasis on relationship of views and dimensioning, correct interpretation of scale measurement and tolerance, and the application and interpretation of symbols and notes.
Prerequisites: TECH 1033 (http://catalog.pvamu.edu/search/?P=TECH%201033).

**TECH 4993 Independent Study**: 1-3 semester hour.
Reading, research, and/or field work on selected topics.