

Farmingdale State College

State University of New York

University in the High School

Course Offerings

School of Business (cont'd.)

Computer Systems Department (cont'd.)

- **BCS 209 – Routing & Switching Essentials**

This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. The laboratory component of this course will give the students hands-on experience configuring routers, switches and basic WAN connectivity. Prerequisite(s): BCS 208 with a grade of C or higher Credits: 3

- **BCS 232 – Electronic Commerce**

This cross-listed business management and business computer systems course covers electronic commerce (EC) foundations, retailing methodologies, and marketing research. Focus will be on the various forms, strategies, and implementations of EC including business-to-business (B2B), business-to-consumer (B2C), and consumer-to-consumer (C2C). Also covered will be social networking, electronic payment systems, and public policy issues including privacy and intellectual property matters as well as recent information technology advancements. Students may receive credit for either BUS 232 or BCS 232 but not for both. Prerequisite(s): BUS 109 and BCS 101 or BCS 102 Credits: 3

- **BCS 320 – Scaling Networks**

This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. Note: Students who have completed BCS 330 or BCS 335 may not receive credit for BCS 320. Prerequisite(s): BCS 209 with a C or higher. Credits: 3

- **BCS 321 – Connecting Networks**

This course discusses the Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network. Note: Students who have completed BCS 330 or BCS 335 may not receive credit for BCS 321. Prerequisite(s): BCS 320 with a grade of C or higher Credits: 3

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Course Offerings

School of Business (cont'd.)

Economics Department

- **ECO 110 – Introduction to Personal Finance**

Students will learn how to navigate the financial decisions they must face and how to make informed decisions related to budgeting, banking, credit, insurance, spending, taxes, saving, investing, inheritance, and living independently. The course will develop financial literacy skills, an understanding of economic principles, and will provide a basis for responsible citizenship and career success. Credits: 3

- **ECO 120 – The Global Economy**

This course provides an overview of current global economic issues. Basic economic concepts are introduced in order to explain differences in the level of development among countries, the direction of trade, the causes and effects of international financial crises, and the motivations of some countries to transition to a market economy. The course also discusses the way in which countries coordinate efforts to deal with matters of international concern such as pollution and global warming. Topics also include the role of international institutions including the World Bank, the international Monetary Fund, the World Trade Organization, and the United Nations. Credits: 3

- **ECO 156 – Principles of Economics (Macroeconomics)**

This course is designed to introduce classic macroeconomic issues such as unemployment, inflation, national income and economic growth. The course will provide a unified framework to address these issues and to study the impact of different policies, such as monetary and fiscal policies, on the aggregate behavior of the economy. Analytical tools will be used to understand the experiences of the United States and other countries, and to address how current policy initiatives affect their macroeconomic performance. (Can be taken to fulfill the Social and Behavior Sciences General Education Requirement.) Credits: 3

- **ECO 157 – Principles of Economics (Microeconomics)**

This course introduces students to fundamental economic concepts and theory, including demand, supply, and the formation of equilibrium prices in product and resource markets. Students will learn a specific set of analytical tools as well as how to apply them to current policy issues. In addition, the course offers an introduction to applied fields such as industrial organization (market structures), labor economics, international trade, and market failure. (Can be taken to fulfill the Social and Behavior Sciences General Education Requirement.) Credits: 3

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Course Offerings

School of Business (cont'd.)

Sport Management Department

- **SMT 110 – Introduction to Sport Management**

An investigation into the scope of the sport industry; a growing major business enterprise in the United States and in much of the world. Functions of management, skills and attributes required of a sport manager, and roles of a manager are examined and researched. Attention focuses on how the managerial process relates to sport organizations and their products. Students become acquainted with career opportunities in the sport management field. Credits: 3

- **SMT 225 – Sport Marketing**

The effective management of information is essential to successful business and athlete development in sport related fields. Sport information directors use software to track stats at every level, including high school, college and professional, and then transmit these stats to national organizations. Computer-aided facility, management, financial, operational and accounting systems for the running of sport franchises and fitness clubs, salary capology, and handicap computational systems are just a few of the other applications for information management that will be addressed in this class.

Prerequisite(s): SMT 110 Credits: 3

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Course Offerings

School of Business (cont'd.)

Visual Communications Department

- **ART 123 – Art History**

An analysis of the social, physical and psychological influences affecting the artist during various historical periods through the present. Emphasis is on the interrelationship between the changing purposes of art and variations in the meaning and form of artistic expression. Credits: 3
- **VIS 101 – Introduction to Drawing**

Students will be introduced to basic observational freehand drawing techniques, including line, form, light and shade and composition. Students will study examples of work from various artists and have an opportunity to apply this knowledge in the studio and in outdoor settings. (Can be taken to fulfill The Arts General Education Requirement.) Credits: 3
- **VIS 105 – Introduction to Photography**

This course is an introduction to the history, art and technique of photography. By utilizing their own cameras and commercial processing, students will acquire the knowledge and skills necessary to produce well-composed and properly exposed creative photographs. The estimated student cost for materials, including film, processing and other supplies is approximately \$200 (not including camera). (Can be taken to fulfill The Arts General Education Requirement.) Credits: 3
- **VIS 140 – Introduction to Graphic Design**

An introduction to the fundamental concepts of design as applied to the communication of information. The primary objective of this course is to develop the students' perceptual and technical skills. Class discussions and hands-on projects will stress the effective use of typography, images, and page layout principles to achieve a balance between the design and readability of documents. Credits: 3
- **VIS 188 – Advertising Art & Applications**

This course will combine basic advertising principles with practical media application. This course shall introduce students to the business of advertising in a contemporary global environment. The course will explore concepts of advertising, including elements of media selection and copywriting within the parameters of internal budgets, management and the application of actual advertising creation. In addition, students will create advertising, integrating the roles of the creative director and marketing manager. Note: Students completing this course may not receive credit for BUS 188. Credits: 3
- **VIS 260 – Graphic Design for Non-Majors**

Graphic Design for Non-Majors introduces the principles and processes of graphic design. Emphasis will be on conceptual development, organization of information and effective communication with the formal integration of type and imagery. Students will learn to think critically, make aesthetic judgments, and become familiar with a variety of tools and techniques used to produce work in the fields of design. (Can be taken to fulfill The Arts General Education Requirement.) Credits: 3
- **VIS 280 – Introduction to Illustrator**

Adobe Illustrator graphic design software is used by graphic designers, web designers, and artists to create vector drawings and imagery for use in different media and platforms. This course will introduce students to the creation of original vector images and artwork, and explore digital illustration techniques to create imagery for a variety of projects and products. These skills will enable the student to properly use the industry's premier vector drawing program. Credits: 1

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School of Business (cont'd.)

Visual Communications Department (cont'd.)

- **VIS 281 – Introduction to Photoshop**

Adobe Photoshop is the industry standard photo editing software used by photographers, graphic and web designers, videographers, and artists to enhance and manipulate photos and create original digital artwork. This course will introduce students to the use of this software to create original artwork, edit, restore and retouch existing photography, correct and modify color and explore different digital image techniques to create composites and simulating a variety of special effects.

Credits: 1

- **VIS 284 – Introduction to InDesign**

Adobe InDesign is a design and layout program used to create publications for print, interactive pdf documents, digital magazines, and EPUBs. By combining text, imagery, and graphic elements created from a variety of sources InDesign allows you to create engaging layouts from single pages to multiple page documents and publications. In this introductory course, you will discover the flexibility and outstanding typography features of this program, work with color, imagery and graphics, and prepare professional-level publications for output for multiple platforms. Credits: 1

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Course Offerings

School of Engineering Technology

Architecture & Construction Management Department

- **ARC 101 – Introduction to Architecture & Construction**

This is an introduction to elementary concepts, literacy and graphics in the architectural and construction field. This elective course is for students who have never taken any hand drawing/drafting and Computer Aided Drafting (CAD). The course will provide a hands on experience in architectural and construction drawing/drafting, sketching, model building, orthographic project. The use of reading scales, lengths, areas and volumes in drawings is developed to help students visualize and understand building elements and plans. The course will include basic CAD fundamentals, site visits and future employment requirements and opportunities for those interested in the major.
Credits: 3

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Course Offerings

School of Engineering Technology (cont'd.)

Automotive Technology Department

- **AET 101 – Internal Combustion Engine Theory and Servicing**

This is a theory/laboratory course designed to introduce the student to basic heat engine types, their physical configurations and various engine operating cycles. Analytic pressure-volume diagrams are utilized to illustrate the effects of gasoline engine design on performance and combustion requirements. Topics discussed include design, construction, inspection techniques and servicing of the internal combustion engine and its components. Laboratory activities are performed to provide relevant hands-on experience to the students. Also engine aspiration, combustion using the principles of fluid dynamics and thermodynamics, volumetric efficiency and fuel metering systems will be discussed in this course. Credits: 3
- **AET 104 – Combustion Engine Theory**

This is a theory course designed to introduce the student to basic heat engine types, their physical configurations and various engine operating cycles. Analytic pressure-volume diagrams are utilized to illustrate the effects of gasoline engine design on performance and combustion requirements. Engine-vehicle performance parameters are analyzed, utilizing individual and group problem solving techniques. Credits: 2
- **AET 105 – Fuel Systems – SI Engines**

This is a theory/laboratory course developed to give the student a basic understanding of spark ignited internal combustion engine fuel systems. Topics discussed include engine aspiration and combustion using the principles of fluid dynamics and thermodynamics as they apply to the intake, exhaust, volumetric efficiency and fuel metering systems. Engine air/fuel requirements are examined along with state of the art fuel delivery systems (carburation and fuel injection), with consideration given to fuel economy and exhaust emissions. Performance characteristics of SI Engines utilizing alternate types of fuels are also examined. Credits: 2
- **AET 106 – Suspension and Control Systems**

This is a theory/laboratory course designed to provide a thorough understanding of the design, construction and operation of automotive chassis and suspension systems. Topics will include a study of the vehicle frame, suspension, steering, wheels, tires and braking systems. Emphasis is directed to the analysis of the vehicle's systems during operation. Credits: 3
- **AET 109 – Automotive Electrical Principles**

This is an automotive theory course designed to introduce students to basic automotive-oriented electrical principles as they relate to both A.C. and D.C. circuits utilized in contemporary automotive electrical systems. Credits: 1
- **AET 150 – Automotive Computer Applications**

This is a theory/laboratory course designed to introduce the student to basic computer utilization and programming. Topics include a thorough introduction to personal computers, instruction in and development of basic programming. Students will be required to develop basic programs for technical automotive problem solving and practical automotive applications. Credits: 2
- **AET 290 – Project Seminar**

This course is designed to provide the student with the challenge of an independent project. Requirements will include the completion of an extensive faculty approved research/construction project. This project must be related to the automotive field. The student is responsible for the original project concept, which must be supported by preliminary, progress and final technical reports. A video-taped oral presentation is also required. Credits: 1

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Course Offerings

School of Engineering Technology (cont'd.)

Electrical Engineering Technology Department

- **EET 105 – Introduction to Digital Electronics**

An introduction to the fundamental concepts of Digital Electronics. Topics covered: Number systems, Boolean Algebra, Logic Gates, Combinational Circuits, Karnaugh Map Minimization Techniques, Adders, Signed Numbers, Multiplexers, Code-Converters, Decoders, Encoders, Comparators and 7-segment displays. The laboratory component of the course reinforces the topics covered in the theory through relevant experiments performed by students using logic trainers. Credits: 2

- **ENV 101 – Energy Sustainability and Environment**

This is an introductory course to create and enhance the critical awareness of the student regarding various forms of energy, sustainability issues and the impact on the environment through unbridled use of energy in the present day context. A scientific and technological approach is used to discuss various topics. The knowledge base of this course is derived from certain natural sciences such as Physics, Chemistry, Biology and Eco-Science. The main topics of discussion are: Forms of energy, energy conservation, impact on the environment by the use of energy, forms of renewable energy and sustainability issues. The critical policy issues related to energy are also discussed. The course prepares the student to be a fully aware citizen on energy issues facing the community and the world. Credits: 3

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Course Offerings

School of Engineering Technology (cont'd.)

Mechanical Engineering Technology Department

- **GPH 103 – Technical Drafting**
This is a traditional manual drafting course including orthographic projection, dimensioning, auxiliary projection and pictorial representation. Emphasis will be placed on drafting techniques including lettering, line quality, accuracy and appearance. Credits: 1
- **GPH 104 – Introduction to Computer Graphics**
This is a laboratory course to provide basic understanding and skills in the College's computer graphics CAD software. Students will learn how to run Computer Aided Drafting (CAD) software on PC's to produce mechanical drawings. They will be taught commands and concepts, and develop the skills required. Some of the topics covered include: setup, drawing, erasing, saving, printing, lines, geometric construction, object snap, text, editing and basic dimensioning. Credits: 1
- **MET 104 – Computer Aided Drafting & Design**
This course introduces computer aided drafting and design (CADD) in 2D drafting and 3D solid modeling. Students will learn traditional drafting techniques, such as orthographic projection, dimensioning, and tolerancing, and apply their drafting skill through 2D CAD software. Students will also learn 3D solid modeling based on parametric constraints, dimensions and features such as extrude, revolve, sweep, loft, hole, fillet and shell. In addition, the course teaches students how to create assemblies and 2D engineering drawings from the existing 3D solids. Laboratory exercises will be assigned to the students for hands-on experience with the related topics. Credits: 3
- **MET 109 – Computer Programming & Applications**
This is an introductory course in a computer programming language. Programs are specifically written to be used in the areas of statics, strength of materials, machine design, heat transfer, and fluid mechanics. Applications of the theoretical concepts are covered in the required laboratory. Credits: 2
- **MET 117 – Manufacturing Processes**
The main purpose of this course is to introduce the mechanical engineering technology student to the principles and operation of mechanical equipment such as lathes, drill press, milling machines and measuring requirements and measuring instruments. Several manufacturing processes such as welding, powder metallurgy, sheet metal forming, extrusion, etc. are also covered. Individual laboratory projects will be assigned to each student to reinforce the topics covered in the theory. Credits: 2
- **MET 211 – Advanced Computer Graphics**
This is a laboratory course which introduces advanced topics in computer graphics including advanced dimensioning and tolerancing, 3-D wire frame, surface of revolution, solids, in computer graphics. Laboratory exercises will be assigned to the students for hands-on experience with the related topics. Prerequisite(s): GPH 103 and GPH 104 Credits: 1
- **MET 215 – Special Topics in Engineering**
This course will cover various applications of basic principles of statics, strength of materials, electrical principles, introduction to basic principles of electromechanical control systems and introduction to Robotics and automation systems. Students will work on independent projects related to various engineering concepts by utilizing various CAD software. Credits: 3

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Course Offerings

School of Health Sciences

- **HST 101 – Current Issues in Health**

This introductory, multidisciplinary course will provide the student with a broad background of information on current issues in health care. This course is designed to facilitate and enhance the professional growth of future health care providers. Topics will include common and emerging health problems, an examination of the health care delivery system, effective wellness behaviors and common ethical issues occurring in health care today. Credits: 3

- **HST 105 – Medical Terminology**

This course is the study of medical terminology. The focus is on prefixes, suffixes, word roots and their combining forms by an introduction to medical word building and the general structure of the body and its various body systems. Students will learn word construction, spelling, usage, comprehension, and phonetic 'sounds like' pronunciations as well as some common medical abbreviations. This course is just right for Health Studies students who are considering a career in dental hygiene, nursing, or medical technology. Credits: 3