COURSE DESCRIPTIONS

GUIDE TO COURSE DESCRIPTIONS

AC	Accounting	HI	Health Information
AP	Administrative Professional	IM	Industrial Manufacturing
CD	Career Development	LE	Legal
CE	Civil Engineering	MA	Medical Assistant
CJ	Criminal Justice	MD	Medical
CP	Computers	MG	Management
DS	Diagnostic Medical Sonography	MK	Marketing
DM	Diagnostic Medical Professional	OS	Office Specialist
EN	English	PD	Professional Development
GA	Graphic Arts	WP	Word Processing
GE	General Education		

Beginning courses are 100 level, more advanced courses are 200 and 300 level, and internships are indicated at the 600 level.

General education courses are listed below. Course descriptions may be found in the alphabetic listing.

GE105 Introduction to Applied Algebra
GE117 Applied Algebra
GE230 Applied Algebra II
GE169 Applied Psychology
GE180 Applied Psychology
GE207 Applied Psychology in Health Care
GE253 Applied Psychology in Health Care
GE231 Art History for the Graphic Designer
GE254 Art History for the Graphic Designer
GE232 Business Economics
GE205 Business Economics
GE210 Business English III
GE118 Business Mathematics
GE233 Business Writing
GE301 Engineering Economics
GE304 Engineering Economics
GE248 English Composition for the Office
GE256 English Composition for the Office
GE234 Geometry for Design
GE255 Geometry for Design
GE249 Health Care Statistics
GE257 Health Care Statistics
GE130 History of IT
GE172 Human Relations in the Workplace
GE178 Human Relations in the Workplace
GE133 Introduction to Business Statistics
GE174 Introduction to Business Statistics
GE181 Introduction to Statistics for CJ
GE179 Mathematics for Health Care Professionals
GE213 Oral Business Communications
GE250 Oral Business Communications
GE251 Oral Presentation Skills
GE203 Psychological Foundations of CJ
GE246 Statistical Methods and Applications
GE258 Statistical Methods and Applications
GE252 Technical Writing
GE259 Technical Writing
GE157 Writing for Criminal Justice
GE182 Writing for Criminal Justice

DM200 ABDOMINAL ULTRASOUND I (5.0 credits/60 clock hours) This course presents normal conditions of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts. It covers the normal sonographic appearance, variants, and function of organs as it relates to disease processes. Pathology will be taught including simple and complex cysts, stones, fluid, and inflammatory changes. This course includes a hands-on lab with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS223 ABDOMINAL ULTRASOUND I (3.0 credits/60 clock hours) This course presents normal conditions of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts. It covers the normal sonographic appearance, variants, and function of organs as it relates to disease processes. Pathology will be taught including simple and complex cysts, stones, fluid, and inflammatory changes. This course includes a hands-on lab with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS228 ABDOMINAL ULTRASOUND I (3.0 credits/36 clock hours) This course presents normal conditions of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts. It covers the normal sonographic appearance, variants, and function of organs as it relates to disease processes. Pathology will be taught including simple and complex cysts, stones, fluid, and inflammatory changes. This course is taught concurrently with Abdominal Ultrasound I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS238 ABDOMINAL ULTRASOUND I LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, and bile ducts will be taught. Details of proper imaging technique of each organ, including transducer selection, patient position, and scan technique will be described and demonstrated. This course is taught concurrently with Abdominal Ultrasound I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM303 ABDOMINAL ULTRASOUND II (5.0 credits/60 clock hours) This course is a continuation of Abdominal Ultrasound I and presents abnormal conditions and pathophysiology of the abdominal vasculature, gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts in adult and pediatric patients. It covers benign and malignant conditions including ultrasound-guided biopsy and drainage procedures, and evaluation of liver, kidney and pancreas transplants and ultrasound-guidance of catheters, and pathologic conditions. This course includes a hands-on lab with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS261 ABDOMINAL ULTRASOUND II (3.0 credits/60 clock hours) This course is a continuation of Abdominal Ultrasound I and presents abnormal conditions and pathophysiology of the abdominal vasculature, gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts in adult and pediatric patients. It covers benign and malignant conditions including ultrasound-guided biopsy and drainage

procedures, and evaluation of liver, kidney and pancreas transplants and ultrasound-guidance of catheters, and pathologic conditions. This course includes a hands-on lab with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS304 ABDOMINAL ULTRASOUND II (3.0 credits/36 clock hours) This course is a continuation of Abdominal Ultrasound I and presents abnormal conditions and pathophysiology of the abdominal vasculature, gallbladder, liver, spleen, pancreas, abdominal vasculature, kidneys, adrenals, and bile ducts in adult and pediatric patients. It covers benign and malignant conditions, including ultrasound-guided biopsy and drainage procedures, and evaluation of liver, kidney and pancreas transplants and ultrasound-guidance of catheters, and pathologic conditions. This course is taught concurrently with Abdominal Ultrasound II Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS305 ABDOMINAL ULTRASOUND II LAB (2.0 credits/24 clock hours) This course is a continuation of Abdominal Ultrasound I Lab and is an integrated, hands-on scanning course with required competency assessments. It moves from techniques for scanning individual organs to learning complete protocols, and advanced scanning techniques. This course is taught concurrently with Abdominal Ultrasound II. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

AC115 ACCOUNTING I (5.0 credits/60 clock hours) The purpose of this course is to acquaint the student with the relationships between accounting and business and to define basic accounting terminology. Accounting is introduced as the common financial language used in business organizations. The course emphasizes the importance of following accepted accounting principles so that a business' financial position can be appropriately evaluated. In addition, students are introduced to the double-entry system, journals, ledgers, trial balances, worksheets, preparation of the income statement, statement of owner's equity, and balance sheet; adjusting and closing entries; accounting for merchandising operations, classified financial statement formats, and ratio analysis. The sole proprietorship business entity is used throughout this course as it pertains to service-oriented and merchandising operations Prerequisite: None.

AC213 ACCOUNTING II (5.0 credits/60 clock hours) Accounting II further expands on the principles and procedures introduced in Accounting I. The course begins with an overview of manual and computerized accounting systems, emphasizing integrated systems using special purpose journals. This course continues with the topics of internal controls, banking transactions, and detailed studies of the accounting for short-term investments, receivables, merchandise inventory, notes payable, and long-term assets. A simulation of accounting for a merchandising enterprise is also used for reinforcement purposes. Prerequisite: Accounting I.

AC305 ACCOUNTING III (5.0 credits/60 clock hours) Accounting III is a continuation of an in-depth study of financial accounting concentrating on partnership and corporate entities, including LLC's. This course includes the recording and reporting of partner and member investments, withdrawals and liquidation, corporate contributed capital, retained earnings, and long-term liabilities. In addition, the preparation of the statement of cash flow, the corporate income statement, and analysis of financial statements will be discussed. Prerequisite: Accounting I.

AC114 ACCOUNTING FOR INFORMATION TECHNOLOGY (3.0 credits/60 clock hours) The purpose of this course is to acquaint the student with the relationships between accounting and business, and to define basic accounting terminology. Students are introduced to the double-entry system, journals, ledgers, trial balance, end-of-period adjustments and financial statements. The student will then utilize this background in accounting with an introduction to QuickBooks Pro, a computerized accounting system. The student will have hands-on instruction in recording vendor transactions, customer transactions, inventory transactions as well as other widely used applications of a computerized accounting system. Prerequisite: None.

AC122 ACCOUNTING FOR INFORMATION TECHNOLOGY (4.5 credits/60 clock hours) The purpose of this course is to acquaint the student with the relationships between accounting and business, and to define basic accounting terminology. Students are introduced to the double-entry system, journals, ledgers, trial balance, end-of-period adjustments and financial statements. The student will then utilize this background in accounting with an introduction to QuickBooks Pro, a computerized accounting system. The student will have hands-on instruction in recording vendor transactions, customer transactions, inventory transactions as well as other widely used applications of a computerized accounting system. Prerequisite: None.

MD602 ADMINISTRATIVE MEDICAL ASSISTANT INTERNSHIP (9.0 credits/378 clock hours) The student will work in a professional medical atmosphere under the supervision of experienced professionals to fulfill the requirements of the internship. The experience will provide the student with an opportunity to enhance his/her education, personal skills, and observe the interaction of personnel within an office environment. Prerequisite: As per internship policy.

MD604 ADMINISTRATIVE MEDICAL ASSISTANT INTERNSHIP (11.0 credits/330 clock hours) The student will work in a professional medical atmosphere under the supervision of experienced professionals to fulfill the requirements of the internship. The experience will provide the student with an opportunity to enhance his/her education, personal skills, and observe the interaction of personnel within an office environment. Prerequisite: As per internship policy.

OS602 ADMINISTRATIVE PROFESSIONAL INTERNSHIP (11.0 credits/330 clock hours) To fulfill the requirements of the internship, the student will participate throughout his/her final term in a work-experience program which directly relates to the computerized office. Under the supervision of an administrator, office manager, or computer technician the student will have the opportunity to enhance his/her education, personal skills, computer skills, and observe the interaction of personnel within an office environment. Prerequisite: As per internship policy.

OS304 ADMINISTRATIVE PROFESSIONAL SEMINAR (2.0 credits/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the Microsoft Certification examination, extending the student's knowledge of software, and/or introducing the student to topics that will increase the student's skill sets. Prerequisite: As per internship policy.

HI300 ADVANCED CODING (1.0 credits/30 clock hours) This course is designed to give the student a more in-depth exposure to ICD-10 CM, ICD-10 PCS and CPT coding. The concepts of proper sequencing, the importance of complications and coormorbidities, the importance of quality documentation, and the impact on reimbursement will be reinforced. The student will code from patient records and patient scenarios utilizing the encoder/grouper. Prerequisites: CPT-4, ICD Coding II, Health Data Content and Reimbursement.

HI301 ADVANCED CODING (3.0 credits/48 clock hours) This course is designed to give the student a more in-depth exposure to ICD-10 CM, ICD-10 PCS and CPT coding. The concepts of proper sequencing, the importance of complications and coormorbidities, the importance of quality

documentation, and the impact on reimbursement will be reinforced. The student will code from patient records and patient scenarios utilizing the encoder/grouper. Prerequisites: CPT-4, ICD Coding II, Health Data Content and Reimbursement.

GA207 ADVANCED COMPUTER GRAPHICS (3.0 credits/60 clock hours) This course is designed to further examine photo-retouching and image manipulation using advanced techniques in Adobe Photoshop. Students will use the software to manipulate photos using an assortment of techniques, create duotone images; add special effects to type, and prepare photos for use in printing and on the web. Prerequisite: Introduction to Computer Graphics (Photoshop).

GA214 ADVANCED COMPUTER GRAPHICS (4.5 credits/60 clock hours) This course is designed to further examine photo-retouching and image manipulation using advanced techniques in Adobe Photoshop. Students will use the software to manipulate photos using an assortment of techniques, create duotone images; add special effects to type, and prepare photos for use in printing and on the web. Prerequisite: Introduction to Computer Graphics (Photoshop).

CP314 ADVANCED MICROSOFT ACCESS (1.5 credits/30 clock hours) In this course in database management, students will build on the database concepts and terminology which were covered in Database. The focus of the course will be to create a project—a working database application, using several linked tables. The skills that will be enhanced are the design and creation of tables, custom forms, labels, queries, reports, and a menu system. Prerequisite: Microsoft Access.

CP325 ADVANCED MICROSOFT ACCESS (2.0 credits/30 clock hours) In this course in database management, students will build on the database concepts and terminology which were covered in Database. The focus of the course will be to create a project—a working database application, using several linked tables. The skills that will be enhanced are the design and creation of tables, custom forms, labels, queries, reports, and a menu system. Prerequisite: Microsoft Access.

CP313 ADVANCED MICROSOFT EXCEL (1.5 credits/30 clock hours) The student will be taught advanced techniques in spreadsheets, building on the skills learned in Spreadsheets. A class project will serve as the lecture base and individual projects will provide student interaction with spreadsheet applications. Prerequisite: Microsoft Excel.

CP326 ADVANCED MICROSOFT EXCEL (2.0 credits/30 clock hours) The student will be taught advanced techniques in spreadsheets, building on the skills learned in Spreadsheets. A class project will serve as the lecture base and individual projects will provide student interaction with spreadsheet applications. Prerequisite: Microsoft Excel.

CP327 ADVANCED MICROSOFT WORD (4.5 credits/60 clock hours) This course is designed to further the student's knowledge of Microsoft Office, Microsoft Word, and Microsoft Windows. Students learn advanced features such as macros, electronic forms, and document collaboration. The course includes integrating Word and Excel. Prerequisite: Microsoft Word.

CP243 ADVANCED WEB SITE DESIGN (3.0 credits/60 clock hours) This course will continue to introduce new and advanced features of web site graphics development using Adobe Photoshop and Illustrator in conjunction with Adobe Flash/ Animate CC. Various methods of site design and animation techniques will be covered. The students will also be challenged to develop content rich storyboards, work with audio and video and other elements integrated within their projects to further explore the possibilities of web-based animation. Prerequisite: None.

CP338 ADVANCED WEB SITE DESIGN (4.5 credits/60 clock hours) This course will continue to introduce new and advanced features of web site graphics development using Adobe Photoshop and Illustrator in conjunction with Adobe Flash/ Animate CC. Various methods of site design and animation techniques will be covered. The students will also be challenged to develop content rich storyboards, work with audio and video and other elements integrated within their projects to further explore the possibilities of web-based animation. Prerequisite: None.

MK201 ADVERTISING & PUBLIC RELATIONS (2.5 credits/60 clock hours) This course is designed to cover two areas. Advertising will concentrate on two segments: (1) the technique and strategy of creating and writing advertisements and (2) an exploration of the advertising media available. Public relations, as related to an organization's image and its relationship to advertising, will be discussed. Upon completion the students will have a basic understanding of where and how advertising and public relations fit into our marketing, economic, and political lives. Prerequisite: None.

MK203 ADVERTISING & PUBLIC RELATIONS (4.5 credits/60 clock hours) This course is designed to cover two areas. Advertising will concentrate on two segments: (1) the technique and strategy of creating and writing advertisements and (2) an exploration of the advertising media available. Public relations, as related to an organization's image and its relationship to advertising, will be discussed. Upon completion the students will have a basic understanding of where and how advertising and public relations fit into our marketing, economic, and political lives. Prerequisite: None.

GA201 ADVERTISING DESIGN (3.0 credits/60 clock hours) This course explores theories, methods and strategies for effectively selling products and services. Students will develop advertising concepts and solutions based on target audiences, demographics, psychographics, and overall company vision. Hands-on projects and presentations will be developed by the student. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign), Typography, Computer Graphics – Illustrator.

GA215 ADVERTISING DESIGN (4.5 credits/60 clock hours) This course explores theories, methods and strategies for effectively selling products and services. Students will develop advertising concepts and solutions based on target audiences, demographics, psychographics, and overall company vision. Hands-on projects and presentations will be developed by the student. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign), Typography, Computer Graphics – Illustrator.

MD302 AMA CAPSTONE PROJECT (1.0 credit/30 clock hours) This is the capstone course for the Administrative Medical Assistant program and gives students an opportunity to showcase their knowledge and skills. The students utilize administrative medical office procedures and duties as they develop their own procedures manual. A comprehensive procedures manual is written and presented. Prerequisites: Introduction to the Health Care Field, ICD Coding II, Health Data Content and Reimbursement, Medical Documentation Applications, CPT-4, Microsoft Office or Microsoft Excel, and Medical Administrative Skills I. Taken concurrently with Medical Administrative Skills II, Medical Insurance Forms, Practice Management & EHR.

MD304 AMA CAPSTONE PROJECT (1.5 credit/30 clock hours) This is the capstone course for the Administrative Medical Assistant program and gives students an opportunity to showcase their knowledge and skills. The students utilize administrative medical office procedures and duties as they develop their own procedures manual. A comprehensive procedures manual is written and presented. Prerequisites: Introduction to the Health Care Field, ICD Coding II, Health Data Content and Reimbursement, Medical Documentation Applications, CPT-4, Microsoft Office or Microsoft Excel, and Medical Administrative Skills I. Taken concurrently with Medical Administrative Skills II, Medical Insurance Forms, Practice Management & EHR.

LE118 AMERICAN CONSTITUTIONAL LAW (4.5 credits/48 clock hours) This course explores constitutional foundations of the three branches of the national government, the evolution of federal-state relationships, and a study of the nature of the judicial process, including the concepts of precedent and judicial review. The Bill of Rights and concepts of Equal Protection and Due Process will also be studied in relation to current societal issues. Prerequisite: None.

CJ115 AN INTRODUCTION TO THE PENNSYLVANIA CRIMINAL JUSTICE HANDBOOK (2.0 credits/36 clock hours) This course provides an overview of the statutes contained in the Pennsylvania Criminal Justice Handbook. It focuses on the methods of use for this book so that students can apply the appropriate statute to the conduct involved. It continues into specific exploration of the major statutes in the handbook, including the Crimes Code, the Vehicle Code, PA Rules of Criminal Procedures, Pennsylvania Legal Guidelines, and miscellaneous statutes. Prerequisite: Introduction to Criminal Law.

CJ119 AN INTRODUCTION TO THE PENNSYLVANIA CRIMINAL JUSTICE HANDBOOK (3.0 credits/36 clock hours) This course provides an overview of the statutes contained in the Pennsylvania Criminal Justice Handbook. It focuses on the methods of use for this book so that students can apply the appropriate statute to the conduct involved. It continues into specific exploration of the major statutes in the handbook, including the Crimes Code, the Vehicle Code, PA Rules of Criminal Procedures, Pennsylvania Legal Guidelines, and miscellaneous statutes. Prerequisite: Introduction to Criminal Law.

GA114 ANALYSIS OF FORM & SPACE (3.0 credits/60 clock hours) This course further develops basic drawing skills and understanding of visual language through studio instruction/drawing/lecture. It introduces concepts such as proportion, space, and perspective as applied to still life, landscape and illustrations. The course will also introduce the fundamentals of concept development and design in the third dimension, as students develop, create and present three dimensional work. Prerequisite: None.

MD102 ANATOMY & PHYSIOLOGY I (5.5 credits/60 clock hours) This course begins with an introduction to the human body which includes the chemical, cellular, and tissue level of organization. Then it progresses to comprehensive anatomy and physiology of the integumentary, skeletal, muscular, and nervous systems. Lab projects will be coordinated with specific systems. Prerequisites: None.

MD106 ANATOMY & PHYSIOLOGY II (5.5 credits/60 clock hours) This course is a continuation of comprehensive anatomy and physiology covering the following body systems: sensory, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive. Laboratory projects will be coordinated with specific systems. Prerequisites: Anatomy & Physiology I and Medical Terminology I.

MD103 ANATOMY & PHYSIOLOGY I LAB (.5 credit/10 clock hours) Lab projects are coordinated with specific systems studied in Anatomy & Physiology I. Prerequisite: Must be taken concurrently with Anatomy & Physiology I.

MD107 ANATOMY & PHYSIOLOGY II LAB (.5 credit/10 clock hours) Lab projects are coordinated with specific systems studied in Anatomy & Physiology II. Prerequisites: Anatomy & Physiology I, Anatomy & Physiology I Lab. Must be taken concurrently with Anatomy & Physiology II.

CP282 ANDROID APPLICATION DEVELOPMENT (3.0 credits/60 clock hours) This course introduces the student to the Android operating system and Android SDK. Students will learn skills required for creating and deploying Android applications. Lecture time will be used to explain the different components of Android development, and create small applications that illustrate how the various components are built. Prerequisite: Java Programming.

CP291 ANDROID APPLICATION DEVELOPMENT (4.5 credits/60 clock hours) This course introduces the student to the Android operating system and Android SDK. Students will learn skills required for creating and deploying Android applications. Lecture time will be used to explain the different components of Android development, and create small applications that illustrate how the various components are built. Prerequisite: Java Programming.

CP328 APPLE APPLICATION DEVELOPMENT (4.5 credits/60 clock hours) This course will introduce students to the Objective-C programming language. Objective-C is the language underlying iOS. Students will learn the fundamentals of Objective-C, creating applications of various complexities. Prerequisite: Introduction to Programming & Logic.

GE117 APPLIED ALGEBRA (4.0 credits/60 clock hours) Applied Algebra is designed to cover basic mathematical and algebraic concepts with an emphasis on logical thinking skills. The topics that will be covered are review of decimals and fractions, basic definitions, operations with signed numbers, order of operations, simplifying algebraic expressions, evaluating algebraic expressions and everyday formulas, manipulating and solving equations and everyday formulas, graphing, exponents, different base systems, ratios, proportions, and percentages. Each concept will involve word problems that are applied in both business and technical careers. This course forms the foundation for future courses in algebra, computer programming, electronics, accounting, statistics and software application courses. Prerequisite: None.

GE230 APPLIED ALGEBRA II (4.0 credits/60 clock hours) Applied Algebra II is designed to expand on the concepts developed in Applied Algebra. The topics covered are scientific notation, review of measurements, operations of real numbers, polynomials, factoring, operations of rational expressions, simplifying radicals, solving equations and inequalities, and solving systems of equations. Each concept will involve word problems that are applied in both business and technical careers. This course forms a mathematical foundation for physics and courses in electronics. Prerequisite: Applied Algebra.

DS209 APPLIED PHYSICS FOR DMS (3.0 credits/58 clock hours) An algebra-based course for the DMS, and DPP program students. Topics covered include technical measurements, light and optics, elasticity, fluids, wave motion, and sound, as they are applied to medical sonography**.** Prerequisites: Taken concurrently with Applied Algebra II or enrolled in Diagnostic Medical Sonography Professional Plus (DPP) program.

DS251 APPLIED PHYSICS FOR DMS (4.5 credits/60 clock hours) An algebra-based course for the DMS, and DPP program students. Topics covered include technical measurements, light and optics, elasticity, fluids, wave motion, and sound, as they are applied to medical sonography**.** Prerequisites: Taken concurrently with Applied Algebra II or enrolled in Diagnostic Medical Sonography Professional Plus (DPP) program.

DS212 APPLIED PHYSICS FOR DMS LAB (.5 credits/14 clock hours) A lab-based course for the DMS, and DPP program students. Topics covered include technical measurements, light and optics, elasticity, fluids, wave motion, and sound. Students work together in laboratory exercises to supplement the lectures. Prerequisites: Applied Algebra II or enrolled in Diagnostic Medical Sonography Professional Plus (DPP) program. This course is taken concurrently with Applied Physics for DMS.

DS255 APPLIED PHYSICS FOR DMS LAB (.5 credits/10 clock hours) A lab-based course for the DMS, and DPP program students. Topics covered include technical measurements, light and optics, elasticity, fluids, wave motion, and sound. Students work together in laboratory exercises to supplement the lectures. Prerequisites: Applied Algebra II or enrolled in Diagnostic Medical Sonography Professional Plus (DPP) program. This course is taken concurrently with Applied Physics for DMS.

IM210 APPLIED PHYSICS FOR ENGINEERING TECHNOLOGY (4.5 credits/60 clock hours) An algebra-based course for the ET program students. Topics covered include technical measurements, elasticity, temperature and expansion, equilibrium and friction, acceleration, work and power, and simple machines, as they are applied to engineering technology. Prerequisite: Applied Algebra II.

IM211 APPLIED PHYSICS FOR ENGINEERING TECHNOLOGY LAB (.5 credits/10 clock hours) A lab-based course for the ET program students. Topics covered include technical measurements, elasticity, temperature and expansion, equilibrium and friction, acceleration, work and power, and simple machines. Students work together in laboratory exercises to supplement the lectures. Prerequisites: Applied Algebra II. This course is taken concurrently with Applied Physics for ET.

GE169 APPLIED PSYCHOLOGY (2.0 credits/36 clock hours) This course is an overview of basic psychological principles and concepts. Students will be exposed to major theoretical perspectives in psychology and will explore methods and findings based in scientific research. Emphasis will be placed on the practical use of these concepts as they apply to the student's life and particular career. Topics of study include learning, memory, thinking, and intelligence; motivation, emotion, personality, stress, and social psychology. Prerequisite: None.

GE180 APPLIED PSYCHOLOGY (3.0 credits/36 clock hours) This course is an overview of basic psychological principles and concepts. Students will be exposed to major theoretical perspectives in psychology and will explore methods and findings based in scientific research. Emphasis will be placed on the practical use of these concepts as they apply to the student's life and particular career. Topics of study include learning, memory, thinking, and intelligence; motivation, emotion, personality, stress, and social psychology. Prerequisite: None.

GE207 APPLIED PSYCHOLOGY IN HEALTHCARE (3.0 credits/36 clock hours) The relationship of psychology and states of consciousness to behavior are explored. Topics of study include an introduction to the areas of health psychology, personality, grieving, function, dysfunction, beliefs, common disorders, and caregiving. Emphasis is placed on the application of these principles in the student's work in the healthcare field. Prerequisite: None.

GE253 APPLIED PSYCHOLOGY IN HEALTHCARE (2.0 credits/36 clock hours) The relationship of psychology and states of consciousness to behavior are explored. Topics of study include an introduction to the areas of health psychology, personality, grieving, function, dysfunction, beliefs, common disorders, and caregiving. Emphasis is placed on the application of these principles in the student's work in the healthcare field. Prerequisite: None.

IM104 ARCHITECTURAL CAD I (3.5 credits/72 clock hours) An introduction to the concepts, practices, standards, and drafting techniques used in residential/light commercial architectural drafting and design utilizing AutoCAD. This will include but not be limited to floor plans, elevations, foundation plans, framing plans, and construction details. Additionally framing methods, wall sections, and general construction specifications are covered. Prerequisites: Technical Drawing II and Building Codes prior to or concurrently.

IM106 ARCHITECTURAL CAD I (5.0 credits/72 clock hours) An introduction to the concepts, practices, standards, and drafting techniques used in residential/light commercial architectural drafting and design utilizing AutoCAD. This will include but not be limited to floor plans, elevations, foundation plans, framing plans, and construction details. Additionally framing methods, wall sections, and general construction specifications are covered. Prerequisites: Technical Drawing II and Building Codes prior to or concurrently.

IM214 ARCHITECTURAL CAD II (4.5 credits/60 clock hours) An introduction to the concepts, practices, standards and drafting techniques used in residential/light commercial architectural drafting and design utilizing Revit. This will include but not be limited to floor plans, elevations, dimensioning, sections, schedules and related details. Additionally general construction specifications are covered. Prerequisite: Architectural CAD I.

IM237 ARCHITECTURAL CAD II (3.0 credits/60 clock hours) An introduction to the concepts, practices, standards and drafting techniques used in residential/light commercial architectural drafting and design utilizing Revit. This will include but not be limited to floor plans, elevations, dimensioning, sections, schedules and related details. Additionally general construction specifications are covered. Prerequisite: Architectural CAD I.

IM301 ARCHITECTURAL CAD III (3.0 credits/60 clock hours) An introduction to the concepts, practices, standards, and drafting techniques used in residential/light commercial architectural drafting and design utilizing AutoCAD and Revit. This will include but not be limited to architectural site plans, mechanical plans, plumbing plans, electrical plans, and related details. Additionally general construction specifications are covered. Prerequisite: Architectural CAD II.

IM303 ARCHITECTURAL CAD III (4.5 credits/60 clock hours) An introduction to the concepts, practices, standards, and drafting techniques used in residential/light commercial architectural drafting and design utilizing AutoCAD and Revit. This will include but not be limited to architectural site plans, mechanical plans, plumbing plans, electrical plans, and related details. Additionally general construction specifications are covered. Prerequisite: Architectural CAD II.

GE231 ART HISTORY FOR THE GRAPHIC DESIGNER (5.0 credits/60 clock hours) This hands-on course will cover the history of art, focusing on the significant periods in time in which the face of art and design has been altered. It will explore the interrelationship between historical, social, political, religious, and technological developments throughout the history of art. This course will address the modern artist's role in society along with how to integrate key periods of art into the designer's modern work. Prerequisite: None.

GE254 ART HISTORY FOR THE GRAPHIC DESIGNER (3.0 credits/60 clock hours) This hands-on course will cover the history of art, focusing on the significant periods in time in which the face of art and design has been altered. It will explore the interrelationship between historical, social, political, religious, and technological developments throughout the history of art. This course will address the modern artist's role in society along with how to integrate key periods of art into the designer's modern work. Prerequisite: None.

AC206 AUDITING (3.0 credits/60 clock hours) Presents broad concepts of auditing principles. Highlights the philosophy and environment of the auditing profession; presents the importance of the auditing process as it relates to a client with a focus on internal control, and the audit evidence documented by working papers. Prerequisite: Intermediate Accounting I.
AC214 AUDITING (5.0 credits/60 clock hours) Presents broad concepts of auditing principles. Highlights the philosophy and environment of the auditing profession; presents the importance of the auditing process as it relates to a client with a focus on internal control, and the audit evidence documented by working papers. Prerequisite: Intermediate Accounting I.

MG300 BASIC PERSONAL FINANCE (1.5 credits/21 clock hours) Upon completion of this course, the student will be able to: set realistic financial goals; understand how, when, and where a recordkeeping system should be developed; develop a budget; understand debt and debt reduction; and understand Social Security benefits. Additionally, the following topics will be covered: savings and investment, the home as an investment, funding college education, purchasing an automobile, insurance, retirement, and wills. Prerequisite: None.

MG301 BASIC PERSONAL FINANCE (2.0 credits/21 clock hours) Upon completion of this course, the student will be able to: set realistic financial goals; understand how, when, and where a recordkeeping system should be developed; develop a budget; understand debt and debt reduction; and understand Social Security benefits. Additionally, the following topics will be covered: savings and investment, the home as an investment, funding college education, purchasing an automobile, insurance, retirement, and wills. Prerequisite: None.

CE111 BUILDING CODES (3.0 credits/36 clock hours) An introduction to international building codes (IRC) that govern residential and light commercial construction. Students explore codes as they relate to the administration, building and planning, safety and fire construction requirements. Prerequisite: None.

AC602 BUSINESS ADMINISTRATION – ACCOUNTING INTERNSHIP (9.0 credits/378 clock hours) Students spend 378 hours during the final term in a practical, on-the-job work-experience program directly involved in manual or automated accounting operations under the supervision of a professional to fulfill the requirements of the internship. Experience will provide the student with an opportunity to enhance his/her education and personal skills as well as opportunity to observe the interaction of accounting personnel within an employment environment. Prerequisite: As per internship policy.

AC603 BUSINESS ADMINISTRATION – ACCOUNTING INTERNSHIP (11.0 credits/330 clock hours) Students spend 330 hours during the final term in a practical, on-the-job work-experience program directly involved in manual or automated accounting operations under the supervision of a professional to fulfill the requirements of the internship. Experience will provide the student with an opportunity to enhance his/her education and personal skills as well as opportunity to observe the interaction of accounting personnel within an employment environment. Prerequisite: As per internship policy.

MG602 BUSINESS ADMINISTRATION – MANAGEMENT & MARKETING INTERNSHIP (9.0 credits/378 clock hours) The student will work in a professional atmosphere in either the area of management or marketing under the supervision of a professional to fulfill the requirements of the internship. The experience will provide the student with an opportunity to observe the interaction of personnel within a business environment. Prerequisite: As per internship policy.

MG603 BUSINESS ADMINISTRATION– MANAGEMENT & MARKETING INTERNSHIP (11.0 credits/330 clock hours) The student will work in a professional atmosphere in either the area of management or marketing under the supervision of a professional to fulfill the requirements of the internship. The experience will provide the student with an opportunity to observe the interaction of personnel within a business environment. Prerequisite: As per internship policy.

CP125 BUSINESS APPLICATIONS (4.5 credits/60 clock hours) This course introduces students to the concepts and applications of word processing, spreadsheets, presentation, and e-mail software. Students will receive hands-on lab experience acquainting the student with a broad range of tools and techniques for each application. Prerequisite: None.

GE205 BUSINESS ECONOMICS (2.0 credits/36 clock hours) This course is designed to introduce the students to the basic fundamentals of economics and how such knowledge can help them in understanding business decisions as well as personal decisions. We will discuss the principles of supply, demand, and market equilibrium and how these principles affect price and production in various economies along with graphs demonstrating how pricing decisions relate to these principles. We will discuss how marginal analysis is used to make business decisions. We will explore American history, the Industrial Revolution, and the way the country was transformed into a global superpower. Prerequisite: None.

GE232 BUSINESS ECONOMICS (3.0 credits/36 clock hours) This course is designed to introduce the students to the basic fundamentals of economics and how such knowledge can help them in understanding business decisions as well as personal decisions. We will discuss the principles of supply, demand, and market equilibrium and how these principles affect price and production in various economies along with graphs demonstrating how pricing decisions relate to these principles. We will discuss how marginal analysis is used to make business decisions. We will explore American history, the Industrial Revolution, and the way the country was transformed into a global superpower. Prerequisite: None.

EN104 BUSINESS ENGLISH I (4.0 credits/60 clock hours) Students will learn and apply the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. Prerequisite: None.

EN105 BUSINESS ENGLISH II (4.0 credits/60 clock hours) Business English II further expands upon the skills and applications introduced in Business English I. Students will continue learning and applying the current practices of effective oral and written communication skills necessary for success in business. They will study and practice the skills needed to write and speak in a manner acceptable to the business community. Prerequisite: Business English I.

GE210 BUSINESS ENGLISH III (3.5 credits/60 clock hours) In order to prepare them to be successful writers of business correspondence, students will, via individual and group practice, apply the skills learned to writing effective business messages by memo, letter and e-mail. Additionally, students prepare a resume, letter of application, and thank-you letter. Prerequisite: Business English II.

WP301 BUSINESS GRAPHICS ESSENTIALS (2.0 credits/36 hours) This course is a continuation of Desktop Publishing I in which students will learn other software applications, such as Adobe Reader, Adobe Illustrator, and Adobe Photoshop. Prerequisite: Desktop Publishing I.

WP302 BUSINESS GRAPHICS ESSENTIALS (3.0 credits/36 hours) This course is a continuation of Desktop Publishing I in which students will learn other software applications, such as Adobe Reader, Adobe Illustrator, and Adobe Photoshop. Prerequisite: Desktop Publishing I.

LE100 BUSINESS LAW (3.0 credits/36 clock hours) This course provides students with basic understanding of the principles of law and its application to business. Students are introduced to the definition of law, the reasons for and methods of government regulation of business, and the basic structure of our legal system. Basic aspects of contract law are covered in detail. Discussion will revolve around the ways that business and law interact and how law benefits the business organization and the consumer. Prerequisite: None.

GE118 BUSINESS MATHEMATICS (4.0 credits/60 clock hours) This course is designed to refresh the student's knowledge of math fundamentals and to apply these fundamentals in business and everyday life. The following concepts will be covered: review of percentage, simple interest, compound interest, sinking fund, annuities, inventory, depreciation, payroll, cash and trade discounts, markup and markdown, banking and related areas. Prerequisite: None.

OS601 BUSINESS OFFICE SPECIALIST INTERNSHIP (9.0 credits/378 clock hours) To fulfill the requirements of the internship, the student will participate throughout his/her final term in a work-experience program which directly relates to the computerized office. Under the supervision of an administrator, office manager, or computer technician the student will have the opportunity to enhance his/her education, personal skills, computer skills, and observe the interaction of personnel within an office environment. Prerequisite: As per internship policy.

OS303 BUSINESS OFFICE SPECIALIST SEMINAR (1.5 credits/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the Microsoft Certification examination, extending the student's knowledge of software, and/or introducing the student to topics that will increase the student's skill sets. Prerequisite: As per internship policy.

MG206 BUSINESS PLAN (3.0 credits/84 clock hours) This is the capstone course for the Business Administration – Management & Marketing program and gives students an opportunity to test their knowledge and skills. The students utilize management and marketing concepts and theories as they "start" their own small business and set organizational goals. A comprehensive business plan is written and formally presented. The plan includes a presentation of financial forecasts derived from accounting projections that could be used to open and operate the business for the first few years. Advertising and promotional campaigns are also included. This plan is a quantitative as well as a qualitative analysis. Prerequisites: Management II, Marketing, Small Business Management, Market Research & Statistics, Advertising & Public Relations, Managerial Accounting with QuickBooks, and having a 2.0 cumulative GPA going into the Business Plan.

MG220 BUSINESS PLAN (4.0 credits/80 clock hours) This is the capstone course for the Business Administration – Management & Marketing program and gives students an opportunity to test their knowledge and skills. The students utilize management and marketing concepts and theories as they "start" their own small business and set organizational goals. A comprehensive business plan is written and formally presented. The plan includes a presentation of financial forecasts derived from accounting projections that could be used to open and operate the business for the first few years. Advertising and promotional campaigns are also included. This plan is a quantitative as well as a qualitative analysis. Prerequisites: Management II, Marketing, Small Business Management, Market Research & Statistics, Advertising & Public Relations, Managerial Accounting with QuickBooks, and having a 2.0 cumulative GPA going into the Business Plan.

GE233 BUSINESS WRITING (3.5 credits/60 clock hours) Students apply the principles of composition and psychology to writing effective business messages by composing memos and letters for typical business situations. Students prepare a resume, letter of application, and thank-you letter. Additionally, students complete research to create business-related documents relevant to their field of study. Prerequisite: Business English II.

CP292 C# PROGRAMMING (4.5 credits/60 clock hours) This course in C# programming will teach students the fundamentals of C# including object-oriented programming, decision structures, repetition structures, methods and functions, and arrays. Students will follow the program development life cycle to create programs that reinforce the topics covered. Prerequisite: Introduction to Programming & Logic.

CP208 C++ PROGRAMMING (3.0 credits/60 clock hours) This course will introduce students to the compact, efficient, portable, and popular programming language known as C++. This language is a programmer-oriented language that resembles an assembly language. Students will learn the basic structures of the language, and also reinforce the use of the program development life cycle in designing and developing programs for business applications. Structured programming and good documentation will continue to be emphasized. Prerequisite: Introduction to Programming & Logic.

CP293 C++ PROGRAMMING (4.5 credits/60 clock hours) This course will introduce students to the compact, efficient, portable, and popular programming language known as C++. This language is a programmer-oriented language that resembles an assembly language. Students will learn the basic structures of the language, and also reinforce the use of the program development life cycle in designing and developing programs for business applications. Structured programming and good documentation will continue to be emphasized. Prerequisite: Introduction to Programming & Logic.

DM202 CARDIAC PATHOPHYSIOLOGY I (5.0 credits/60 clock hours) Systematic presentation of cardiac embryology, cardiac anatomy and physiology and its relationship to normal function of the heart is presented. Evaluation of normal cardiac hemodynamics will be taught including flow

dynamics, Doppler principles and Valvular Doppler tracings as they relate to normal cardiac physiologic states. This course includes a hands-on lab with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS243 CARDIAC PATHOPHYSIOLOGY I (3.0 credits/60 clock hours) Systematic presentation of cardiac embryology, cardiac anatomy and physiology and its relationship to normal function of the heart is presented. Evaluation of normal cardiac hemodynamics will be taught including flow dynamics, Doppler principles and Valvular Doppler tracings as they relate to normal cardiac physiologic states. This course includes a hands-on lab with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS257 CARDIAC PATHOPHYSIOLOGY I (3.0 credits/36 clock hours) Systematic presentation of cardiac embryology, cardiac anatomy and physiology and its relationship to normal function of the heart is presented. Evaluation of normal cardiac hemodynamics will be taught including flow dynamics, Doppler principles and Valvular Doppler tracings as they relate to normal cardiac physiologic states. This course is taken concurrently with Cardiac Pathophysiology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS267 CARDIAC PATHOPHYSIOLOGY I LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the anatomy and physiology of the adult heart will be taught. This course is taken concurrently with Cardiac Pathophysiology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM301 CARDIAC PATHOPHYSIOLOGY II (5.0 credits/60 clock hours) This course is a continuation of Cardiac Pathophysiology I. It continues with systematic presentation of various cardiac diseases and conditions including but not limited to cardiomyopathies, heart failure, pericardial disease, cardiac masses, valvular pathology, systemic and pulmonary disease, interventional echo procedures and intraoperative echo. The focus will be on recognition of disease in clinical presentation as well as the appropriate echocardiographic approach necessary for evaluation including advanced hemodynamic applications and advanced Doppler related techniques. This course includes a hands-on lab with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS262 CARDIAC PATHOPHYSIOLOGY II (3.0 credits/60 clock hours) This course is a continuation of Cardiac Pathophysiology I. It continues with systematic presentation of various cardiac diseases and conditions including but not limited to cardiomyopathies, heart failure, pericardial disease, cardiac masses, valvular pathology, systemic and pulmonary disease, interventional echo procedures and intraoperative echo. The focus will be on recognition of disease in clinical presentation as well as the appropriate echocardiographic approach necessary for evaluation including advanced hemodynamic applications and advanced Doppler related techniques. This course includes a hands-on lab with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS306 CARDIAC PATHOPHYSIOLOGY II (3.0 credits/36 clock hours) This course is a continuation of Cardiac Pathophysiology I. It continues with systematic presentation of various cardiac diseases and conditions including but not limited to cardiomyopathies, heart failure, pericardial disease, cardiac masses, valvular pathology, systemic and pulmonary disease, interventional echo procedures and intraoperative echo. The focus will be on recognition of disease in clinical presentation as well as the appropriate echocardiographic approach necessary for evaluation including advanced hemodynamic applications and advanced Doppler related techniques. This course will be taken concurrently with Cardiac Pathophysiology II Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS311 CARDIAC PATHOPHYSIOLOGY II LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Advanced assessment of the anatomy and physiology of the adult heart will be taught. This course will be taken concurrently with Cardiac Pathophysiology II. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

CD104 CAREER DEVELOPMENT I (2.0 credit/24 clock hours) This course is an introduction to the jobs that are available in the Criminal Justice field. Information is provided on how to apply for these jobs, taking the necessary examinations (Civil Service), and preparing documents such as a resume, cover letter, and references. This class will provide information on interviewing techniques and skills. Prerequisite: None.

CD102 CAREER DEVELOPMENT II (1.0 credit/24 clock hours) This course is a continuation of Career Development I. It will continue to discuss possible employment in the CJ field. This course will also evaluate other options that are available to CJ students including military avenues and continuing education. Prerequisite: None.

CD105 CAREER DEVELOPMENT II (2.0 credit/24 clock hours) This course is a continuation of Career Development I. It will continue to discuss possible employment in the CJ field. This course will also evaluate other options that are available to CJ students including military avenues and continuing education. Prerequisite: None.

CD103 CAREER DEVELOPMENT III (1.0 credit/24 clock hours) This course is a continuation of Career Development II. Students will meet as a group and individually to analyze their wants and needs for employment in the CJ field. Prerequisite: None.

CD307 CAREER PREPARATION (1.5 credits/21 clock hours) This course is taken concurrently with the internship. The faculty advisor and the student discuss the student's progress at the internship site in a group setting and, for specific problems and successes, individually. Weekly reports are submitted and the experiences of the week are reviewed. In addition, classroom instruction may be given to address areas where the interns, faculty, or site supervisors feel additional work is needed. Field trips to explore different business environments and/or to expand knowledge about the area of study may be taken. Prerequisite: As per internship policy.

CD308 CAREER PREPARATION (.5 credits/10 clock hours) This course is taken concurrently with the internship. The faculty advisor and the student discuss the student's progress at the internship site in a group setting and, for specific problems and successes, individually. Weekly reports are submitted and the experiences of the week are reviewed. In addition, classroom instruction may be given to address areas where the interns, faculty, or site supervisors feel additional work is needed. Field trips to explore different business environments and/or to expand knowledge about the area of study may be taken. Prerequisite: As per internship policy.

CD303 CERTIFICATION PREPARATION FOR ACCOUNTING (1.5 credits/21 clock hours) This course is designed to prepare the students for the QuickBooks ProAdvisor Exam by reviewing previously learned QuickBooks skills and introducing more advanced skills. Additional training will be covered on Microsoft Outlook and PowerPoint. Prerequisite: As per internship policy.

CD310 CERTIFICATION PREPARATION FOR ACCOUNTING (2.0 credits/21 clock hours) This course is designed to prepare the students for the QuickBooks ProAdvisor Exam by reviewing previously learned QuickBooks skills and introducing more advanced skills. Additional training will be covered on Microsoft Outlook and PowerPoint. Prerequisite: As per internship policy.

CD304 CERTIFICATION PREPARATION FOR INFORMATION TECHNOLOGY (1.5 credits/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the certification examination as provided by applicable professional organizations. Prerequisite: As per the internship policy.

CD306 CERTIFICATION PREPARATION FOR THE ADMINISTRATIVE MEDICAL ASSISTANT (1.5 credit/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the certification examination as provided by applicable professional organizations. Prerequisites: Intro to the Health Care Field, ICD Coding II, Health Data Content and Reimbursement, Medical Documentation Applications, CPT-4, Microsoft Office or Microsoft Excel, Medical Administrative Skills II, Medical Insurance Forms, Practice Management & EHR.

CD311 CERTIFICATION PREPARATION FOR THE ADMINISTRATIVE MEDICAL ASSISTANT (2.0 credit/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the certification examination as provided by applicable professional organizations. Prerequisites: Intro to the Health Care Field, ICD Coding II, Health Data Content and Reimbursement, Medical Documentation Applications, CPT-4, Microsoft Office or Microsoft Excel, Medical Administrative Skills II, Medical Insurance Forms, Practice Management & EHR.

CD305 CERTIFICATION PREPARATION FOR THE MEDICAL ASSISTANT (1.5 credits/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the certification examination as provided by applicable professional organizations. Prerequisite: As per internship policy.

CD309 CERTIFICATION PREPARATION FOR THE MEDICAL ASSISTANT (2.0 credits/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the certification examination as provided by applicable professional organizations. Prerequisite: As per internship policy.

CP329 CISCO NETWORKING (4.5 credits/60 clock hours) This course offers an overview of networking with Cisco hardware. Topics include: the OSI model, TCP/IP protocols, Router and IOS basics, Router configuration, network services, access lists, and switch basics and configuration. Prerequisites: Hardware and Networking Essentials.

CE201 CIVIL CAD (5.0 credits/72 clock hours) An introduction to surveying and CAD-based applications in civil engineering. Students will practice plane surveying with a transit; horizontal distances, elevations and angles, level distance measuring, note keeping, and field computations. CAD-based applications will be used to construct topographic maps and site plans. Electronic media; orthophotographs, and digital raster graphic (DRG) images will be introduced. Prerequisites: Technical Drawing II and Geometry and Trigonometry for Engineering Technology.

CE204 CIVIL CAD (3.5 credits/72 clock hours) An introduction to surveying and CAD-based applications in civil engineering. Students will practice plane surveying with a transit; horizontal distances, elevations and angles, level distance measuring, note keeping, and field computations. CAD-based applications will be used to construct topographic maps and site plans. Electronic media; orthophotographs, and digital raster graphic (DRG) images will be introduced. Prerequisites: Technical Drawing II and Geometry and Trigonometry for Engineering Technology.

CE205 CIVIL DESIGN (4.5 credits/60 clock hours) This course follows the Civil CAD course and teaches the students to execute simple design assignments. In every assignment, the students determine design requirements by researching requirements in borough and township codes and ordinances. Design assignments include site analysis, earthwork, erosion and sedimentation control plans, and roadways. Students will learn how to calculate surface water drainage areas and earthwork quantities. Prerequisite: Civil CAD.

CE221 CIVIL DESIGN (3.0 credits/60 clock hours) This course follows the Civil CAD course and teaches the students to execute simple design assignments. In every assignment, the students determine design requirements by researching requirements in borough and township codes and ordinances. Design assignments include site analysis, earthwork, erosion and sedimentation control plans, and roadways. Students will learn how to calculate surface water drainage areas and earthwork quantities. Prerequisite: Civil CAD.

DM600 CLINICAL INTERNSHIP I (14.5 credits/441 clock hours) The student is assigned to a carefully selected ultrasound department where he/she will begin by observing ultrasound scans. The student will gradually begin supervised scanning of patients, and will eventually perform complete diagnostic sonograms with minimal supervision. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS601 CLINICAL INTERNSHIP I (10.0 credits/420 clock hours) The student is assigned to a carefully selected ultrasound department where he/she will begin by observing ultrasound scans. The student will gradually begin supervised scanning of patients, and will eventually perform complete diagnostic sonograms with minimal supervision. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS603 CLINICAL INTERNSHIP I (10.5 credits/441 clock hours) The student is assigned to a carefully selected ultrasound department where he/she will begin by observing ultrasound scans. The student will gradually begin supervised scanning of patients, and will eventually perform complete diagnostic sonograms with minimal supervision. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS605 CLINICAL INTERNSHIP I (14.5 credits/435 clock hours) The student is assigned to a carefully selected ultrasound department where he/she will begin by observing ultrasound scans. The student will gradually begin supervised scanning of patients, and will eventually perform complete diagnostic sonograms with minimal supervision. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator

of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DM601 CLINICAL INTERNSHIP II (14.5 credits/441 clock hours) This course is a continuation of Clinical internship I where the student continues at their assigned clinical site. The student continues to perform complete diagnostic ultrasounds with minimal supervision. Scanning skills and technique should become more refined and the intern will participate in more advanced ultrasound exams. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS602 CLINICAL INTERNSHIP II (10.0 credits/420 clock hours) This course is a continuation of Clinical internship I where the student continues at their assigned clinical site. The student continues to perform complete diagnostic ultrasounds with minimal supervision. Scanning skills and technique should become more refined and the intern will participate in more advanced ultrasound exams. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS604 CLINICAL INTERNSHIP II (10.5 credits/441 clock hours) This course is a continuation of Clinical internship I where the student continues at their assigned clinical site. The student continues to perform complete diagnostic ultrasounds with minimal supervision. Scanning skills and technique should become more refined and the intern will participate in more advanced ultrasound exams. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS606 CLINICAL INTERNSHIP II (14.5 credits/435 clock hours) This course is a continuation of Clinical internship I where the student continues at their assigned clinical site. The student continues to perform complete diagnostic ultrasounds with minimal supervision. Scanning skills and technique should become more refined and the intern will participate in more advanced ultrasound exams. Supervision of the intern is provided by the clinical site supervisor. The clinical coordinator of the program maintains regular contact with the clinical site supervisor throughout the course to monitor progress of the student on a weekly basis. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS205 CLINICAL OBSTETRICS (2.5 credits/36 clock hours) This course begins with endocrinology of ovulation, fertilization and implantation, moving on to embryology and progressive development of the fetal and maternal structures throughout the first, second and third trimesters. Physiology and pathophysiology of the placenta are discussed. Emergent conditions such as ectopic pregnancy, placenta abruptio, and impending abortion (miscarriage) are presented. Congenital anomalies, syndromes, intrauterine growth retardation, and other pathologies involving the developing fetus are discussed. Fetal presentation and problems of labor and delivery are covered. Other obstetrical subjects including multigestation, infertility and IVF procedures, development and teratology, hypertension in pregnancy, Rh disease complications and OB testing procedures are covered. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

DS271 CLINICAL OBSTETRICS (3.5 credits/36 clock hours) This course begins with endocrinology of ovulation, fertilization and implantation, moving on to embryology and progressive development of the fetal and maternal structures throughout the first, second and third trimesters. Physiology and pathophysiology of the placenta are discussed. Emergent conditions such as ectopic pregnancy, placenta abruptio, and impending abortion (miscarriage) are presented. Congenital anomalies, syndromes, intrauterine growth retardation, and other pathologies involving the developing fetus are discussed. Fetal presentation and problems of labor and delivery are covered. Other obstetrical subjects including multigestation, infertility and IVF procedures, development and teratology, hypertension in pregnancy, Rh disease complications and OB testing procedures are covered. Prerequisite: Must be enrolled in DMS, DPP, or DMP program.

MA206 CLINICAL SKILLS (4.5 credits/60 clock hours) This course is the introduction for the student to basic clinical skills. This introduction provides a strong foundation for students in medical programs. Topics include processing medical information, medical asepsis and infection control, and measuring vital signs. Prerequisites: Anatomy & Physiology II and Medical Terminology II.

MA202 CLINICAL SKILLS II (3.0 credits/60 clock hours) This course is a continuation of Clinical Skills I to expand the student's knowledge base to assess and assist during minor medical and surgical procedures and examinations. Topics include: assisting with examinations and procedures such as those performed in pediatrics, ophthalmology, and gynecology . Medical asepsis and infection control principles are implemented as the student learns procedures to disinfect and sterilize equipment. Prerequisite: Clinical Skills I.

IM215 CNC PROGRAMMING (3.5 credits/48 clock hours) This course is an introduction to the computer numerical control (CNC) machines and language used in industry. The students learn how to write and edit programs for drilling, milling, and tool change operations. In addition, students use CAM software to write programs from CAD drawing geometry. Prerequisites: Technical Drawing II taken prior to or concurrently, Machining Processes and Machining Processes Lab.

IM251 CNC PROGRAMMING (2.0 credits/48 clock hours) This course is an introduction to the computer numerical control (CNC) machines and language used in industry. The students learn how to write and edit programs for drilling, milling, and tool change operations. In addition, students use CAM software to write programs from CAD drawing geometry. Prerequisites: Technical Drawing II taken prior to or concurrently, Machining Processes and Machining Processes Lab.

IM221 CNC PROGRAMMING LAB (2.0 credits/24 clock hours) Students apply written programs to produce parts on a CNC machine. Students learn how to produce parts safely, accurately, and in a minimum amount of time. A variety of work-holding methods are learned and applied. Prerequisites: Technical Drawing II taken prior to or concurrently, Machining Processes, and Machining Processes Lab. This course is taken concurrently with CNC Programming.

IM229 CNC PROGRAMMING LAB (0.5 credits/24 clock hours) Students apply written programs to produce parts on a CNC machine. Students learn how to produce parts safely, accurately, and in a minimum amount of time. A variety of work-holding methods are learned and applied. Prerequisites: Technical Drawing II taken prior to or concurrently, Machining Processes, and Machining Processes Lab. This course is taken concurrently with CNC Programming.

GA115 COLLATERAL DESIGN (4.5 credits/60 clock hours) The role of graphic design in creating collateral and cohesive materials and advertising campaigns will be introduced and explored with a focus on brochures, billboards, posters, transit cards, point-of-sale materials, direct

mail pieces, sales and promotional materials, etc. The process of developing unified advertising collateral materials in both individual and group settings, involving multiple presentations will be emphasized. Prerequisite: Electronic Design I (Quark) or Electronic Design II (InDesign).

GA116 COLOR THEORY (2.5 credits/36 clock hours) This fundamental course provides an introduction to the principles of color and the exploration of color theory. Various degrees of color theory are examined, including the psychological and cultural aspects of how these determine and assist the designer in making appropriate design color decisions. Prerequisite: None.

OS302 COMMUNICATION AND EVENT PLANNING (3.0 credits/60 clock hours) This course is a capstone course for students. The course provides students with the opportunity to integrate their knowledge and skills in the areas of keyboarding, desktop publishing, letter composition, word processing, communications, and human relations. Professionalism will be stressed. Students will also explore the changing office environment with emphasis on the electronic office. Students complete projects and activities using various computer applications. Students will plan an event from start to finish. They will also learn how to set up and effectively run an online meeting. Prerequisites: Advanced Microsoft Word and Desktop Publishing I.

OS305 COMMUNICATION & EVENT PLANNING (4.5 credits/60 clock hours) This course is a capstone course for students. The course provides students with the opportunity to integrate their knowledge and skills in the areas of keyboarding, desktop publishing, letter composition, word processing, communications, and human relations. Professionalism will be stressed. Students will also explore the changing office environment with emphasis on the electronic office. Students complete projects and activities using various computer applications. Students will plan an event from start to finish. They will also learn how to set up and effectively run an online meeting. Prerequisites: Advanced Microsoft Word and Desktop Publishing I.

GA216 COMPUTER GRAPHICS – ILLUSTRATOR (4.5 credits/60 clock hours) This course will explore the essentials of creating vector-based artwork using Adobe Illustrator. Students will explore corporate identity and logo design, creating poster and outdoor advertising, and creating vector artwork from scans and raster artwork. Students are introduced to skillsets including image trace, live paint, creating and modifying shapes using Bezier points, and transformation and modification techniques. Prerequisite: None.

CP285 COMPUTER PRESENTATIONS (3.0 credits/36 clock hours) The course will use a problem-solving approach to teach the use of the computer for presentation purposes. The student will be able to create a business-oriented presentation, document the presentation, and deliver the presentation to an audience. The student will be introduced to the concept of integrating spreadsheets, word processing and graphics with the presentation software program. Prerequisite: None.

AC116 COMPUTERIZED ACCOUNTING (4.0 credits/60 clock hours) The course introduces students to computerized accounting software and examines the software selection process. This is a hands-on course where the student maintains all aspects of the accounting process for a business using a computerized accounting program. One micro-computer based accounting software product will be utilized to complete an entire accounting cycle involving the accounts receivable, accounts payable, inventory, payroll, job cost allocation, and report generation for a fictitious company. Prerequisite: Accounting I or Introduction to Accounting.

AC128 COMPUTERIZED ACCOUNTING (3.0 credits/60 clock hours) The course introduces students to computerized accounting software and examines the software selection process. This is a hands-on course where the student maintains all aspects of the accounting process for a business using a computerized accounting program. One micro-computer based accounting software product will be utilized to complete an entire accounting cycle involving the accounts receivable, accounts payable, inventory, payroll, job cost allocation, and report generation for a fictitious company. Prerequisite: Accounting I or Introduction to Accounting.

GA202 CONCEPT DEVELOPMENT (1.5 credits/36 clock hours) This course focuses on real-world applications of graphic design principles and theory. Problem identification, solving and research methods will be explored. Design solutions will be developed geared to a targeted audience and market will be emphasized. Effective interaction with a creative team will be developed and employed as a resource in the conceptual process, as well as idea-generating exercise. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign) and Introduction to Computer Graphics (Photoshop).

GA217 CONCEPT DEVELOPMENT (2.5 credits/36 clock hours) This course focuses on real-world applications of graphic design principles and theory. Problem identification, solving and research methods will be explored. Design solutions will be developed geared to a targeted audience and market will be emphasized. Effective interaction with a creative team will be developed and employed as a resource in the conceptual process, as well as idea-generating exercise. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign) and Introduction to Computer Graphics (Photoshop).

CP268 CONTENT MANAGEMENT SYSTEMS (3.0 credits/60 clock hours) This course focuses on the building of websites using commonly used Content Management Systems (CMS). Throughout the course the student will build a web page using a CMS framework. Students will create posts, create pages, add images, customize themes, import plugins, manage comments, explore e-commerce and social media, and focus on SEO. Prerequisites: Web Site Design and PHP.

CP294 CONTENT MANAGEMENT SYSTEMS (4.0 credits/60 clock hours) This course focuses on the building of websites using commonly used Content Management Systems (CMS). Throughout the course the student will build a web page using a CMS framework. Students will create posts, create pages, add images, customize themes, import plugins, manage comments, explore e-commerce and social media, and focus on SEO. Prerequisites: Web Site Design and PHP.

MD104 CONVERSATIONAL SPANISH FOR HEALTHCARE PROFESSIONALS (2.0 credits/36 clock hours) This course is a study of Spanish related to health professions. Students will gain familiarity with basic written and oral vocabulary for the assessment of Spanish speaking patients in a variety of settings. Emphasis is placed on conversational medical Spanish to provide functional skills for interacting with Spanish-speaking patients; introduction to Hispanic cultures in the United States. Prerequisite: None.

MD110 CONVERSATIONAL SPANISH FOR HEALTHCARE PROFESSIONALS (3.0 credits/36 clock hours) This course is a study of Spanish related to health professions. Students will gain familiarity with basic written and oral vocabulary for the assessment of Spanish speaking patients in a variety of settings. Emphasis is placed on conversational medical Spanish to provide functional skills for interacting with Spanish-speaking patients; introduction to Hispanic cultures in the United States. Prerequisite: None.

AC202 COST/MANAGERIAL ACCOUNTING (3.0 credits/60 clock hours) This course introduces the student to cost accounting principles as they apply to job order costing. Managerial decision making issues such as break even analysis, target profit, target sales, fixed and variable costs and other planning and budgeting topics are presented. Required journal entries based on cost allocations and the resulting financial statement preparation for a manufacturing operation are also introduced. Prerequisite: Accounting II.

AC217 COST/MANAGERIAL ACCOUNTING (4.5 credits/60 clock hours) This course introduces the student to cost accounting principles as they apply to job order costing. Managerial decision making issues such as break even analysis, target profit, target sales, fixed and variable costs and other planning and budgeting topics are presented. Required journal entries based on cost allocations and the resulting financial statement preparation for a manufacturing operation are also introduced. Prerequisite: Accounting II.

HI212 CPT-4 (2.5 credits/48 clock hours) This course introduces the student to the Current Procedural Terminology format and conventions and current coding practices for coding outpatient procedures. CPT is part of the Healthcare Common Coding Procedure Coding System (HCPCS) which contains two levels of codes which will be explained and discussed. Coding principles and guidelines for evaluation and management, surgery, anesthesia, pathology and lab, radiology and medicine will be presented. Prerequisite: ICD Coding I.

HI225 CPT-4 (4.0 credits/48 clock hours) This course introduces the student to the Current Procedural Terminology format and conventions and current coding practices for coding outpatient procedures. CPT is part of the Healthcare Common Coding Procedure Coding System (HCPCS) which contains two levels of codes which will be explained and discussed. Coding principles and guidelines for evaluation and management, surgery, anesthesia, pathology and lab, radiology and medicine will be presented. Prerequisite: ICD Coding I.

CJ215 CRIME MAPPING FOR CJ (2.0 credit/36 clock hours) The purpose of this class is to introduce the student to practical aspects of crime analysis. Specifically, the student will be introduced to many different areas concerning crime analysis including: different forms of crime analysis, data issues, spatial analysis, database management, administrative reporting, and response development. The lab portion of the class will provide hands-on training in crime mapping practices. Prerequisites: Microsoft Office and Introduction to Statistics for Criminal Justice.

CJ205 CRIMINAL EVIDENCE (2.0 credits/36 clock hours) This course provides students the opportunity to develop their understanding of the manner in which legal issues and disputes are resolved by trial. The course involves a discussion of the origin, nature, and admissibility of evidence against the accused. The exclusionary rule and the distinction between real and testimonial evidence as admitted or excluded from court proceedings are emphasized. Topics include the hearsay rule and its exceptions, the opinion evidence rule, character and reputation evidence, direct and cross examination of witnesses, burden of proof and presumptions, identification evidence, and other pertinent rules of evidence. Prerequisite: None.

CJ224 CRIMINAL EVIDENCE (3.0 credits/36 clock hours) This course provides students the opportunity to develop their understanding of the manner in which legal issues and disputes are resolved by trial. The course involves a discussion of the origin, nature, and admissibility of evidence against the accused. The exclusionary rule and the distinction between real and testimonial evidence as admitted or excluded from court proceedings are emphasized. Topics include the hearsay rule and its exceptions, the opinion evidence rule, character and reputation evidence, direct and cross examination of witnesses, burden of proof and presumptions, identification evidence, and other pertinent rules of evidence. Prerequisite: None.

CJ221 CRIMINAL INVESTIGATIONS (3.5 credits/60 clock hours) This course introduces students to the rules and procedures that govern the pretrial processing of criminal suspects and the conduct of criminal trials. It also examines the basic aspects of criminal investigation; presents an overview of crimes and their elements; identifies the major goals of investigation; discuss various techniques and the criminal investigators relationship with individuals and other agencies. Discussion includes a number of issues relevant to the constitutional safeguards, as well as the cases reflecting current trends in criminal procedure. Particular investigative procedures employed in investigation of such crimes as homicide, rape, arson, and organized crime will be detailed. Prerequisite: None.

CJ225 CRIMINAL INVESTIGATIONS (3.0 credits/36 clock hours) This course introduces students to the rules and procedures that govern the pretrial processing of criminal suspects and the conduct of criminal trials. It also examines the basic aspects of criminal investigation; presents an overview of crimes and their elements; identifies the major goals of investigation; discuss various techniques and the criminal investigators relationship with individuals and other agencies. Discussion includes a number of issues relevant to the constitutional safeguards, as well as the cases reflecting current trends in criminal procedure. Particular investigative procedures employed in investigation of such crimes as homicide, rape, arson, and organized crime will be detailed. Prerequisite: None.

CJ300 CRIMINAL JUSTICE CAPSTONE PROJECT (3.0 credits/60 clock hours) This is the capstone course for the Criminal Justice program and gives students an opportunity to test their knowledge and skills. The students utilize criminal justice concepts and theories as they develop their own projects that range from responding to an emergency procedure and/or a crime, processing the crime scene, following it through the system, applying legal concepts and preparing the proper reports. Students are required to write a comprehensive report and present it formally in a power point presentation. Prerequisites: Writing for Criminal Justice, Introduction to Corrections, Introduction to Law Enforcement, Criminal Evidence, Criminal Procedures and Criminal Investigations.

CJ304 CRIMINAL JUSTICE CAPSTONE PROJECT (4.0 credits/60 clock hours) This is the capstone course for the Criminal Justice program and gives students an opportunity to test their knowledge and skills. The students utilize criminal justice concepts and theories as they develop their own projects that range from responding to an emergency procedure and/or a crime, processing the crime scene, following it through the system, applying legal concepts and preparing the proper reports. Students are required to write a comprehensive report and present it formally in a power point presentation. Prerequisites: Writing for Criminal Justice, Introduction to Corrections, Introduction to Law Enforcement, Criminal Evidence, Criminal Procedures and Criminal Investigations.

CJ602 CRIMINAL JUSTICE INTERNSHIP (9.0 credits/378 clock hours) To fulfill the requirements of the internship, the student will participate throughout his/her final term in a work-experience program which directly relates to the criminal justice system. Under the supervision of a site supervisor, the student will have the opportunity to enhance his/her education, personal skills, computer skills, and observe the interaction of personnel within a criminal justice environment. Prerequisite: As per internship policy.

CJ603 CRIMINAL JUSTICE INTERNSHIP (11.0 credits/330 clock hours) To fulfill the requirements of the internship, the student will participate throughout his/her final term in a work-experience program which directly relates to the criminal justice system. Under the supervision of a site supervisor, the student will have the opportunity to enhance his/her education, personal skills, computer skills, and observe the interaction of personnel within a criminal justice environment. Prerequisite: As per internship policy.

CJ222 CRIMINAL PROCEDURES (3.5 credits/60 clock hours) This course introduces students to rules and procedures governing investigations, arrests, pretrial processing of criminal suspects and the conduct of criminal trials. The impact of the United States Constitution on criminal investigations and prosecutions is examined in detail with particular focus on the exclusionary rule and other ramifications for constitutional violations in the investigative process. Students will analyze major Supreme Court decisions affecting law enforcement with particular emphasis on the Fourth, Fifth and Sixth Amendments. Discussion includes a number of issues relevant to current investigative trends and in balancing the competing interests of privacy and individual autonomy against those of law enforcement. Prerequisite: Introduction to Criminal Law.

CJ226 CRIMINAL PROCEDURES (5.0 credits/60 clock hours) This course introduces students to rules and procedures governing investigations, arrests, pretrial processing of criminal suspects and the conduct of criminal trials. The impact of the United States Constitution on criminal investigations and prosecutions is examined in detail with particular focus on the exclusionary rule and other ramifications for constitutional violations in the investigative process. Students will analyze major Supreme Court decisions affecting law enforcement with particular emphasis on the Fourth, Fifth and Sixth Amendments. Discussion includes a number of issues relevant to current investigative trends and in balancing the competing interests of privacy and individual autonomy against those of law enforcement. Prerequisite: Introduction to Criminal Law.

CJ303 CRIMINAL PROCEDURES II (3.0 credits/60 clock hours) This course is a continuation of Criminal Procedures. Students further explore constitutional safeguards in the investigation and prosecution of criminal cases. Lessons center on statutory and judicial rules pertaining to pre-trial, trial and post-conviction procedures. Prerequisites: Criminal Procedures and Introduction to Criminal Law.

CJ305 CRIMINAL PROCEDURES II (3.0 credits/36 clock hours) This course is a continuation of Criminal Procedures. Students further explore constitutional safeguards in the investigation and prosecution of criminal cases. Lessons center on statutory and judicial rules pertaining to pre-trial, trial and post-conviction procedures. Prerequisites: Criminal Procedures and Introduction to Criminal Law.

CJ227 CRIMINOLOGY (5.0 credits/60 clock hours) This course examines the extent and nature of crime in today's societies, the nature of criminal behavior and other forms of deviance. Major areas of investigation include general characteristics of crime and criminals, social and individual factors producing criminality, the most significant theoretical contributions to the study of crime and delinquency, and specific forms of crime. Prerequisite: Introduction to Criminal Justice.

CJ301 CRITICAL ISSUES FOR THE CRIMINAL JUSTICE PROFESSIONAL (1.5 credits/21 clock hours) This course will review the current issues in criminal justice that the students will face as they enter the workplace. Prerequisites: None.

DM204 CROSS SECTIONAL & THREE-DIMENSIONAL ANATOMY (3.5 credits/36 clock hours) This course presents human anatomy in various planes, and spatial relationships of organs to one another. Anatomical sections with ultrasound, computed topography, and MRI images are compared. Upon completion of the course the student will have an understanding of the spatial relationships and anatomical detail of the body's organs and anatomy when imaging the human body. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS219 CROSS SECTIONAL & THREE-DIMENSIONAL ANATOMY (2.5 credits/36 clock hours) This course presents human anatomy in various planes, and spatial relationships of organs to one another. Anatomical sections with ultrasound, computed topography, and MRI images are compared. Upon completion of the course the student will have an understanding of the spatial relationships and anatomical detail of the body's organs and anatomy when imaging the human body. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS273 CROSS SECTIONAL ANATOMY FOR SONOGRAPHY (2.0 credits/24 clock hours) This course presents human anatomy in various planes, and spatial relationships of organs to one another. Anatomical sections with ultrasound, computed topography, and MRI images are compared. Upon completion of the course the student will have and understanding of the spatial relationships and anatomical detail of the body's organs and anatomy when imaging the human body. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

MG107 CUSTOMER RELATIONS (3.0 credits/36 clock hours) Principles of customer service and customer service techniques will be presented. Emphasis will be placed on communication skills, telephone skills, problem solving, customer retention issues, and the development of customer service strategies and policies. Prerequisite: None.

MG195 CUSTOMER RELATIONS (2.0 credits/36 clock hours) Principles of customer service and customer service techniques will be presented. Emphasis will be placed on communication skills, telephone skills, problem solving, customer retention issues, and the development of customer service strategies and policies. Prerequisite: None.

CP232 DATABASE ADMINISTRATION (3.0 credits/60 clock hours) This course will cover advanced database topics. The student will learn how to create and manage databases including security and performance issues. Prerequisite: Intro to SQL Databases or Microsoft Access.

CP295 DATABASE ADMINISTRATION (4.5 credits/60 clock hours) This course will cover advanced database topics. The student will learn how to create and manage databases including security and performance issues. Prerequisite: Intro to SQL Databases or Microsoft Access.

WP203 DESKTOP PUBLISHING I (3.0 credits/60 clock hours) This course teaches students to create professional printed materials such as brochures, forms, newsletters, reports, and booklets on the computer. Students will learn basic design and page layout skills and produce a variety of documents which incorporate text and graphics. Prerequisite: Microsoft Word or Microsoft Office or Business Applications.

WP210 DESKTOP PUBLISHING I (4.5 credits/60 clock hours) This course teaches students to create professional printed materials such as brochures, forms, newsletters, reports, and booklets on the computer. Students will learn basic design and page layout skills and produce a variety of documents which incorporate text and graphics. Prerequisite: Microsoft Word or Microsoft Office or Business Applications.

GA300 DIGITAL PHOTOGRAPHY (3.0 credits/60 clock hours) Introduces students to the history and aesthetics of photography, while encouraging artistic expression and experimentation with picture content and design focused around identifying the basic photographic tools and

their intended purpose, including the proper use of camera systems, lighting, and composition. Students will learn how to operate a camera, download, print making to editing, along with presentation. Prerequisite: None.

GA306 DIGITAL PHOTOGRAPHY (3.5 credits/48 clock hours) Introduces students to the history and aesthetics of photography, while encouraging artistic expression and experimentation with picture content and design focused around identifying the basic photographic tools and their intended purpose, including the proper use of camera systems, lighting, and composition. Students will learn how to operate a camera, download, print making to editing, along with presentation. Prerequisite: None.

GA208 DIGITAL PRE-PRESS (3.0 credits/60 clock hours) Students develop skillsets for the creation of properly-prepared digital pre-press documents including scanned and edited images, object-defined graphics and text through the integration of a variety of files. The place of digital page make-up in modern print production is studied, as are specialty finishing, bindery techniques and a variety of methods of providing digital files to commercial printers. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign) and Intro to Computer Graphics (Photoshop) and Computer Graphics - Illustrator.

GA218 DIGITAL PRE-PRESS (4.5 credits/60 clock hours) Students develop skillsets for the creation of properly-prepared digital pre-press documents including scanned and edited images, object-defined graphics and text through the integration of a variety of files. The place of digital page make-up in modern print production is studied, as are specialty finishing, bindery techniques and a variety of methods of providing digital files to commercial printers. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign) and Intro to Computer Graphics (Photoshop) and Computer Graphics - Illustrator.

AP205 DOCUMENT PROCESSING (2.5 credits/36 clock hours) This course is designed to develop the student's ability to take unarranged material and type it into error-free business documents. Proofreading, accuracy in formatting, and speed will be further developed through working with projects. Prerequisites: Keyboarding, Introduction to Document Processing and Microsoft Word with a grade of C- or better.

AP206 DOCUMENT PROCESSING (2.0 credits/36 clock hours) This course is designed to develop the student's ability to take unarranged material and type it into error-free business documents. Proofreading, accuracy in formatting, and speed will be further developed through working with projects. Prerequisites: Keyboarding, Introduction to Document Processing and Microsoft Word with a grade of C- or better.

CJ211 DRUGS, CRIME AND CRIMINAL JUSTICE (3.0 credits/60 clock hours) This course examines the role that drugs play in the U.S. Criminal Justice system. Topics covered include the identification of drugs, their physiological and psychological effects, and the recognition of the physical indicators and behavior patterns of a person under the influence of drugs. This course also discusses the relationship between drugs and crime and will include investigation techniques that law enforcement use to apprehend drug users and traffickers. Methods of intervention and treatment are analyzed and response strategies from the War on Drugs to more recent innovations such as therapeutic communities, drug courts, and decriminalization will be focused upon. Prerequisite: None.

CJ228 DRUGS, CRIME AND CRIMINAL JUSTICE (3.0 credits/36 clock hours) This course examines the role that drugs play in the U.S. Criminal Justice system. Topics covered include the identification of drugs, their physiological and psychological effects, and the recognition of the physical indicators and behavior patterns of a person under the influence of drugs. This course also discusses the relationship between drugs and crime and will include investigation techniques that law enforcement use to apprehend drug users and traffickers. Methods of intervention and treatment are analyzed and response strategies from the War on Drugs to more recent innovations such as therapeutic communities, drug courts, and decriminalization will be focused upon. Prerequisite: None.

DM203 ECHOCARDIOGRAPHY I (5.0 credits/60 clock hours) Instrumentation and principles of Transthoracic Echocardiographic Exam including M-Mode, Two-Dimensional (2D) imaging, spectral Doppler and color Doppler will be presented. Students will learn proper patient positioning, transducer selection and image setup to optimize M-Mode and 2-D imaging. Quantitative techniques used for evaluating cardiac hemodynamics and chambers will be demonstrated. Techniques used for LV systolic function analysis using a variety of sonographic methods will be demonstrated. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS244 ECHOCARDIOGRAPHY I (3.0 credits/60 clock hours) Instrumentation and principles of Transthoracic Echocardiographic Exam including M-Mode, Two-Dimensional (2D) imaging, spectral Doppler and color Doppler will be presented. Students will learn proper patient positioning, transducer selection and image setup to optimize M-Mode and 2-D imaging. Quantitative techniques used for evaluating cardiac hemodynamics and chambers will be demonstrated. Techniques used for LV systolic function analysis using a variety of sonographic methods will be demonstrated. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS275 ECHOCARDIOGRAPHY I (3.0 credits/36 clock hours) Instrumentation and principles of Transthoracic Echocardiographic Exam including M-Mode, Two-Dimensional (2D) imaging, spectral Doppler and color Doppler will be presented. Students will learn proper patient positioning, transducer selection and image setup to optimize M-Mode and 2-D imaging. Quantitative techniques used for evaluating cardiac hemodynamics and chambers will be demonstrated. Techniques used for LV systolic function analysis using a variety of sonographic methods will be demonstrated. This course is taken concurrently with Echocardiography I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS276 ECHOCARDIOGRAPHY I LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of cardiac anatomy, physiology, hemodynamics and systolic function will be taught utilizing 2D, M-mode, Doppler and color flow modalities. Left hand cardiac scanning will be presented initially. This course is taken concurrently with Echocardiography I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM306 ECHOCARDIOGRAPHY II (5.0 credits/60 clock hours) This course is a continuation of Echocardiography I and continues to discuss instrumentation and principles of Transthoracic Echocardiographic Exam including more advanced topics of M-mode, 2D, spectral and color flow Doppler in demonstration and evaluation of disease processes in the adult heart. Presentation of advanced topics such as LV systolic function, LV diastolic function, contrast use, 3D, and strain will be presented. There will be continued focus on accuracy and image optimization in all modalities and views. Advanced calculations/measurements necessary for appropriate disease assessment will be demonstrated. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS247 ECHOCARDIOGRAPHY II (3.0 credits/60 clock hours) This course is a continuation of Echocardiography I and continues to discuss instrumentation and principles of Transthoracic Echocardiographic Exam including more advanced topics of M-mode, 2D, spectral and color flow Doppler in demonstration and evaluation of disease processes in the adult heart. Presentation of advanced topics such as LV systolic function, LV diastolic function, contrast use, 3D, and strain will be presented. There will be continued focus on accuracy and image optimization in all modalities and views. Advanced calculations/measurements necessary for appropriate disease assessment will be demonstrated. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS313 ECHOCARDIOGRAPHY II (3.0 credits/36 clock hours) This course is a continuation of Echocardiography I and continues to discuss instrumentation and principles of Transthoracic Echocardiographic Exam including more advanced topics of M-mode, 2D, spectral and color flow Doppler in demonstration and evaluation of disease processes in the adult heart. Presentation of advanced topics such as LV systolic function, LV diastolic function, contrast use, 3D, and strain, will be presented. There will be continued focus on accuracy and image optimization in all modalities and views. Advanced calculations/measurements necessary for appropriate disease assessment will be demonstrated. This course is taken concurrently with Echocardiography II Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS314 ECHOCARDIOGRAPHY II LAB (2.0 credits/24 clock hours) This course is a continuation of Echocardiography I Lab and is an integrated, hands-on scanning course with required competency assessments. More advanced assessments of cardiac anatomy, physiology, hemodynamics systolic function and valvular function will be taught utilizing 2D, M-mode, Doppler and color flow modalities. Right hand cardiac scanning will be introduced. This course will be taken concurrently with Echocardiography II. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS259 ECHOCARDIOGRAPHY SPECIAL TOPICS (3.0 credits/60 clock hours) In depth presentation of 2D, Color and Doppler principles related to all types of valvular stenosis, insufficiency and prosthetic valve evaluation will be discussed. Advanced Doppler analysis related to Valvular disease and changing cardiac pressures and their application /correlation with cardiac angiography will be reviewed. Congenital heart disease in the adult population is introduced with emphasis on 2D and Doppler quantification necessary for evaluation of complex hemodynamics. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS329 ECHOCARDIOGRAPHY SPECIAL TOPICS (5.0 credits/60 clock hours) In depth presentation of 2D, Color and Doppler principles related to all types of valvular stenosis, insufficiency and prosthetic valve evaluation will be discussed. Advanced Doppler analysis related to Valvular disease and changing cardiac pressures and their application /correlation with cardiac angiography will be reviewed. Congenital heart disease in the adult population is introduced with emphasis on 2D and Doppler quantification necessary for evaluation of complex hemodynamics. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

AP203 EDITING & PROOFREADING (1.5 credit/30 clock hours) This course is designed to further develop the student's ability to edit and proofread accurately and to use traditional proofreading symbols correctly in order to produce business communications in mailable form. Prerequisite: Business English II.

AP204 EDITING & PROOFREADING (2.0 credit/30 clock hours) This course is designed to further develop the student's ability to edit and proofread accurately and to use traditional proofreading symbols correctly in order to produce business communications in mailable form. Prerequisite: Business English II.

MA303 ELECTROCARDIOGRAPHY (3.0 credits/60 clock hours) This course continues to expand the student's knowledge base in the area of cardiovascular disease and testing procedures performed on a medical office. Topics include: recording an electrocardiogram, five steps of rhythm identification, normal ECG rhythm strip interpretation, recognition of cardiac arrhythmias and the appropriate response to each, patient education and preparation for exercise and ambulatory ECG monitoring. Prerequisites: Anatomy & Physiology II and Medical Terminology II.

MA305 ELECTROCARDIOGRAPHY (4.5 credits/60 clock hours) This course continues to expand the student's knowledge base in the area of cardiovascular disease and testing procedures performed on a medical office. Topics include: recording an electrocardiogram, five steps of rhythm identification, normal ECG rhythm strip interpretation, recognition of cardiac arrhythmias and the appropriate response to each, patient education and preparation for exercise and ambulatory ECG monitoring. Prerequisites: Anatomy & Physiology II and Medical Terminology II.

GA117 ELECTRONIC DESIGN I (QUARK) (4.5 credits/60 clock hours) This course expands the various elements, skills, and tools of graphic design to include the computer. Employing Quark Xpress and Adobe InDesign, the knowledge of traditional typography, hand skills and production will be translated into the electronic environment. Techniques specific to computer generated design will be introduced. Prerequisite: None.

GA118 ELECTRONIC DESIGN II (INDESIGN) (4.5 credits/60 clock hours) This course expands the various elements, skills, and tools of graphic design to include the computer. Employing Adobe InDesign, the knowledge of traditional typography and production will be translated into the electronic environment. Techniques specific to computer generated design will be introduced. Prerequisite: None.

HI218 ELECTRONIC HEALTH RECORDS (2.0 credits/36 clock hours) This course is a study of electronic health information systems in use in the various health care settings. The emphasis is on identifying the needs of the user, data dictionaries, hardware and software, systems design, analysis of data, and systems integration. The students will operate and use various EHRs. Prerequisites: Health Data Content and Reimbursement, Healthcare Quality Improvement.

HI230 ELECTRONIC HEALTH RECORDS (2.5 credits/36 clock hours) This course is a study of electronic health information systems in use in the various health care settings. The emphasis is on identifying the needs of the user, data dictionaries, hardware and software, systems design, analysis of data, and systems integration. The students will operate and use various EHRs. Prerequisites: Health Data Content and Reimbursement, Healthcare Quality Improvement.

DS213 EMBRYOLOGY FOR THE SONOGRAPHER (2.0 credits/36 clock hours) Embryology for the Sonographer investigates the development of human organs and body systems. The class will illustrate the normal human developmental process, explore the link between normal and abnormal gross anatomy, and connect the developmental stages. Knowledge and comprehension of the developmental process will assist the sonographer in the recognition of normal anatomy and pathologic processes during exams. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS281 EMBRYOLOGY FOR THE SONOGRAPHER (3.0 credits/36 clock hours) Embryology for the Sonographer investigates the development of human organs and body systems. The class will illustrate the normal human developmental process, explore the link between normal and abnormal

gross anatomy, and connect the developmental stages. Knowledge and comprehension of the developmental process will assist the sonographer in the recognition of normal anatomy and pathologic processes during exams. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

CJ216 EMERGENCY PROCEDURES (2.0 credits/36 clock hours) This course provides an introduction to basic emergency procedures; types of emergencies that criminal justice students will encounter, types of responders, types of responses, and command and planning structure for critical incidents. Prerequisite: None.

CJ229 EMERGENCY PROCEDURES (2.0 credits/24 clock hours) This course provides an introduction to basic emergency procedures; types of emergencies that criminal justice students will encounter, types of responders, types of responses, and command and planning structure for critical incidents. Prerequisite: None.

GE301 ENGINEERING ECONOMICS (1.5 credits/21 clock hours) An introduction to economics. Engineering projects must be designed to be technically correct as well as economically feasible. This course will introduce you to cost concepts and comparing project alternatives. Prerequisite: Engineering Technology Project.

GE304 ENGINEERING ECONOMICS (2.0 credits/21 clock hours) An introduction to economics. Engineering projects must be designed to be technically correct as well as economically feasible. This course will introduce you to cost concepts and comparing project alternatives. Prerequisite: Engineering Technology Project.

IM602 ENGINEERING TECHNOLOGY INTERNSHIP (9.0 credits/378 clock hours) To fulfill the requirements of the internship, the student participates throughout his/her final term in an on-the-job work-experience program which is directly related to an engineering or manufacturing area of business. Through hands-on experience under the supervision of a site supervisor, the student will have the opportunity to enhance his/her education and skills and have the opportunity to observe and participate in the interactions of personnel within an organization. Prerequisite: As per internship policy.

IM603 ENGINEERING TECHNOLOGY INTERNSHIP (11.0 credits/330 clock hours) To fulfill the requirements of the internship, the student participates throughout his/her final term in an on-the-job work-experience program which is directly related to an engineering or manufacturing area of business. Through hands-on experience under the supervision of a site supervisor, the student will have the opportunity to enhance his/her education and skills and have the opportunity to observe and participate in the interactions of personnel within an organization. Prerequisite: As per internship policy.

IM300 ENGINEERING TECHNOLOGY PROJECT (3.0 credits/84 clock hours) This is the capstone course for the Engineering Technology program and gives students an opportunity to test and extend their skills and knowledge. The project is assigned by the instructor. The project may be in the area of mechanical, architectural or civil engineering technology. Students work in teams, submit a final project report, and make a project presentation upon completion. Prerequisites: Machining Processes, Architectural CAD II, and Civil Design.

IM304 ENGINEERING TECHNOLOGY PROJECT (4.0 credits/80 clock hours) This is the capstone course for the Engineering Technology program and gives students an opportunity to test and extend their skills and knowledge. The project is assigned by the instructor. The project may be in the area of mechanical, architectural or civil engineering technology. Students work in teams, submit a final project report, and make a project presentation upon completion. Prerequisites: Machining Processes, Architectural CAD II, and Civil Design.

GE248 ENGLISH COMPOSITION FOR THE OFFICE (1.0 credits/30 clock hours) This capstone English course consists of short writing assignments requiring different structuring principles. This course requires knowledge of paragraph and essay writing as well as mastery of English sentence skills. Prerequisite: Business English II.

GE256 ENGLISH COMPOSITION FOR THE OFFICE (2.0 credits/30 clock hours) This capstone English course consists of short writing assignments requiring different structuring principles. This course requires knowledge of paragraph and essay writing as well as mastery of English sentence skills. Prerequisite: Business English II.

CP320 ETHICAL HACKING AND DEFENSE (3.0 credits/60 clock hours) This course prepares a student for network defense. Students will learn about network and computer attacks, footprinting, social engineering, port scanning, operating systems and vulnerabilities, and cryptography. The student will learn methods to defend against popular methods of hacking. Prerequisites: Hardware and Networking Essentials.

CP330 ETHICAL HACKING AND DEFENSE (4.5 credits/60 clock hours) This course prepares a student for network defense. Students will learn about network and computer attacks, footprinting, social engineering, port scanning, operating systems and vulnerabilities, and cryptography. The student will learn methods to defend against popular methods of hacking. Prerequisites: Hardware and Networking Essentials.

LE119 FAMILY LAW FOR CRIMINAL JUSTICE (2.5 credit/36 clock hours) This course takes students on a study of family law. The course provides a detailed overview of family law including examination of family law issues that tend to arise in the criminal justice arena such as divorce and separation, child custody and support, and protection from abuse actions. Prerequisite: None.

DM101 FIRST AID & CPR-AHA (1.0 credit/12 clock hours) This course teaches CPR skills for helping victims of all ages (including doing ventilation with a barrier device, a bag-mask device, and oxygen); use of an automated external defibrillator (AED); and relief of foreign-body airway obstruction (FBAO). This course also provides the knowledge and skills necessary to recognize and provide basic care for injuries, sudden illnesses, and breathing emergencies. It's intended for participants who provide health care to patients in a variety of settings. Prerequisite: None.

DS101 FIRST AID & CPR-AHA (.5 credit/12 clock hours) This course teaches CPR skills for helping victims of all ages (including doing ventilation with a barrier device, a bag-mask device, and oxygen); use of an automated external defibrillator (AED); and relief of foreign-body airway obstruction (FBAO). This course also provides the knowledge and skills necessary to recognize and provide basic care for injuries, sudden illnesses, and breathing emergencies. It's intended for participants who provide health care to patients in a variety of settings. Prerequisite: None.

DS103 FIRST AID & CPR-AHA (.5 credit/10 clock hours) This course teaches CPR skills for helping victims of all ages (including doing ventilation with a barrier device, a bag-mask device, and oxygen); use of an automated external defibrillator (AED); and relief of foreign-body airway obstruction

(FBAO). This course also provides the knowledge and skills necessary to recognize and provide basic care for injuries, sudden illnesses, and breathing emergencies. It's intended for participants who provide health care to patients in a variety of settings. Prerequisite: None.

CJ112 FORENSIC SCIENCE (2.0 credits/36 clock hours) The forensic portion of the course will examine scientific aspects of the criminal investigation. The major emphasis is placed upon the collection, analysis, preservation, and processing of physical evidence. Some of the topics to be covered include the crime scene search, fingerprints, blood analysis and DNA identification, and questioned documents. Prerequisite: None.

CJ120 FORENSIC SCIENCE (3.0 credits/36 clock hours) The forensic portion of the course will examine scientific aspects of the criminal investigation. The major emphasis is placed upon the collection, analysis, preservation, and processing of physical evidence. Some of the topics to be covered include the crime scene search, fingerprints, blood analysis and DNA identification, and questioned documents. Prerequisite: None.

GA305 FREELANCE BUSINESS DEVELOPMENT (1.5 credits/21 clock hours) This course is taken concurrently with the internship. The focus of this course is the practice of design for communication in a business context. This course will cover a number of topics, including: personal marketing, freelance practice, working with artists and vendors, business models for design entrepreneurs, sustainability, and presentation skills. Prerequisite: Taken concurrently with the internship.

GA307 FREELANCE BUSINESS DEVELOPMENT (2.0 credits/21 clock hours) This course is taken concurrently with the internship. The focus of this course is the practice of design for communication in a business context. This course will cover a number of topics, including: personal marketing, freelance practice, working with artists and vendors, business models for design entrepreneurs, sustainability, and presentation skills. Prerequisite: Taken concurrently with the internship.

GA119 FUNDAMENTALS OF DESIGN (4.5 credits/60 clock hours) This course will introduce the basic principles of design. Using a variety of materials and techniques, the creative process will be introduced and developed. By exploring design elements and relationships, the students will begin to establish a basic aesthetic sensitivity that will further be utilized in various courses throughout the Graphic Arts program. Prerequisite: None.

GA120 FUNDAMENTALS OF DRAWING (3.0 credits/60 clock hours) Visual awareness is expanded through detailed observation of form, composition, mass and structure. These observations are then used to translate and interpret three-dimensional forms into two-dimensional drawings and illustrations. Using a variety of drawing media and working both on location and in the studio, the student will explore drawing and rendering techniques on simple to highly detailed objects, developing the understanding and skills to construct drawings using line, shape, and dimension. Prerequisite: None.

AC123 FUNDAMENTALS OF INCOME TAX (5.0 credits/60 clock hours) This course introduces the student to the current Federal and State income tax laws as they relate to the individual taxpayer. Preparation of federal individual tax returns and supporting schedules will be emphasized. Prerequisite: Accounting I or Business Mathematics.

MD111 FUNDAMENTALS OF MEDICAL DOCUMENTATION (2.0 credits/30 clock hours) This course introduces the fundamental skills and knowledge that a student must understand in preparation for medical documentation. The different types of reports and their formats, and selected guidelines will be presented. Prerequisites: Microsoft Word or Microsoft Office and Medical Terminology II.

CP123 FUNDAMENTALS OF WEB SITE DESIGN (3.0 credits/60 clock hours) This course introduces fundamental Website design skills and techniques using HTML resources, Adobe Dreamweaver and Web graphics editing software (Adobe Photoshop). Students will learn the basic techniques of manually creating Websites using Dreamweaver as well as using HTML/CSS programming code. Students will also learn to create and edit graphs, images and animation for the Web, including social media sites. Content Management Systems (CMS) based Website development will also be introduced. This course will provide the basic fundamentals to various types of Web development techniques and associated graphics, enabling students to create, modify and enhance commercially viable Web pages. Prerequisite: None.

CP124 FUNDAMENTALS OF WEB SITE DESIGN (4.5 credits/60 clock hours) This course introduces fundamental Website design skills and techniques using HTML resources, Adobe Dreamweaver and Web graphics editing software (Adobe Photoshop). Students will learn the basic techniques of manually creating Websites using Dreamweaver as well as using HTML/CSS programming code. Students will also learn to create and edit graphs, images and animation for the Web, including social media sites. Content Management Systems (CMS) based Website development will also be introduced. This course will provide the basic fundamentals to various types of Web development techniques and associated graphics, enabling students to create, modify and enhance commercially viable Web pages. Prerequisite: None.

IM222 GEOMETRY & TRIGONOMETRY FOR ENGINEERING TECHNOLOGY (4.0 credits/60 clock hours) Geometry & Trigonometry for Engineering Technology is designed to prepare engineering professionals with a basic knowledge in Geometry and Trigonometry concepts used by engineering professionals. The topics covered are angular measure, calculations of perimeter, area, volume, and surface area of geometric figures, trigonometric functions with right triangles, and trigonometric functions with oblique triangles. With each concept students apply their knowledge to real-world situations in the engineering field. This course forms a mathematical foundation for future courses such as Civil CAD, Machining Processes, and CNC Programming. Prerequisite: Applied Algebra II.

GE234 GEOMETRY FOR DESIGN (3.0 credits/36 clock hours) Geometry for Design is designed to cover basic mathematical, algebraic and geometric concepts that are used by Graphic Design professionals. The topics that will be covered are review of order of operations, basic geometric formulas used by Graphic Design professionals, ratios, proportions, percentages, and measurement conversion. Prerequisite: None.

GE255 GEOMETRY FOR DESIGN (1.5 credits/24 clock hours) Geometry for Design is designed to cover basic mathematical, algebraic and geometric concepts that are used by Graphic Design professionals. The topics that will be covered are review of order of operations, basic geometric formulas used by Graphic Design professionals, ratios, proportions, percentages, and measurement conversion. Prerequisite: None.

GA602 GRAPHIC ARTS INTERNSHIP (9.0 credits/378 clock hours) A field internship is required to provide practical experience in a setting which is relevant to the student's course of study. Work performed during the student's internship may be utilized in developing a more cohesive portfolio upon graduation. A comprehensive final paper must be written. Prerequisite: As per internship policy.

GA603 GRAPHIC ARTS INTERNSHIP (11.0 credits/330 clock hours) A field internship is required to provide practical experience in a setting which is relevant to the student's course of study. Work performed during the student's internship may be utilized in developing a more cohesive portfolio upon graduation. A comprehensive final paper must be written. Prerequisite: As per internship policy.

GA121 GRAPHIC DESIGN STUDIO I (3.5 credits/60 clock hours) This course introduces students to graphic design as a conceptual and visual discipline. Working in both individual and team environments, varied projects are introduced to the student with an emphasis on solving visual problems from a wide range of topics in a variety of media. Prerequisite: Electronic Design I (Quark) or Electronic Design II (InDesign).

GA211 GRAPHIC DESIGN STUDIO II (2.5 credits/60 clock hours) Students in the class will work on a variety of projects for inclusion in their final portfolios. Work will include self-promotional materials, magazine and text-intensive layout design, logo and corporate identity, and creation of multiple-piece design campaigns including print, web and responsive design. Prerequisite: Graphic Design Studio I.

GA219 GRAPHIC DESIGN STUDIO II (3.5 credits/60 clock hours) Students in the class will work on a variety of projects for inclusion in their final portfolios. Work will include self-promotional materials, magazine and text-intensive layout design, logo and corporate identity, and creation of multiple-piece design campaigns including print, web and responsive design. Prerequisite: Graphic Design Studio I.

GA302 GRAPHIC SYMBOLISM – CORPORATE (3.0 credits/60 clock hours) This course examines the importance of graphic symbols in design. Logos and other symbolic images will be examined in classical and contemporary contexts. Graphic elements including typography, imagery, and abstract shapes will be utilized to create logo designs and other symbolic images. A large scale corporate identity package consisting of the following will be included: logo design, stationery, and collateral materials that include a variety of forms such as booklets, brochures, posters, advertising, signage, and packaging. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign), Typography, Computer Graphics – Illustrator

DM205 GYNECOLOGIC ULTRASOUND (5.0 credits/60 clock hours) Gynecologic ultrasound begins with the presentation of normal female pelvic anatomy and its sonographic appearance. The student will learn to assess and document representative images as required. Various pathologic conditions along with their signs, symptoms, sonographic appearances and treatments are introduced. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS224 GYNECOLOGIC ULTRASOUND (3.0 credits/60 clock hours) Gynecologic ultrasound begins with the presentation of normal female pelvic anatomy and its sonographic appearance. The student will learn to assess and document representative images as required. Various pathologic conditions along with their signs, symptoms, sonographic appearances and treatments are introduced. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS283 GYNECOLOGIC ULTRASOUND I (3.0 credits/36 clock hours) Gynecologic ultrasound begins with the presentation of normal female pelvic anatomy and its sonographic appearance. The student will learn to assess and document representative images as required. Various pathologic conditions along with their signs, symptoms, sonographic appearances and treatments are introduced. This course is taught concurrently with a hands-on scanning lab in Gynecologic Ultrasound I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS284 GYNECOLOGIC ULTRASOUND I LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the female pelvic anatomy including the uterus, ovaries and other pelvic structures will be demonstrated and practiced. The course is taught concurrently with Gynecologic Ultrasound I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

CP126 HARDWARE (4.5 credits/60 clock hours) This course will cover microcomputer hardware terminology, upgrade, repair, maintenance, and troubleshooting. Students will learn how to install and configure expansion cards, hard disk drives, printers and other peripheral devices. Prerequisite: None.

GE249 HEALTH CARE STATISTICS (1.0 credit/24 clock hours) The focus of this course is the presentation of descriptive and vital statistics, definitions, data collection methods, analysis and interpretation of data, accuracy of information, calculation of formulas, and methods of presenting data. Prerequisites: Health Data Content and Reimbursement, Mathematics for Healthcare Professionals and Microsoft Excel (taken prior to or concurrently).

GE257 HEALTH CARE STATISTICS (2.0 credit/24 clock hours) The focus of this course is the presentation of descriptive and vital statistics, definitions, data collection methods, analysis and interpretation of data, accuracy of information, calculation of formulas, and methods of presenting data. Prerequisites: Health Data Content and Reimbursement, Mathematics for Healthcare Professionals and Microsoft Excel (taken prior to or concurrently).

HI103 HEALTH DATA CONTENT AND REIMBURSEMENT (4.5 credits/60 clock hours) This course emphasizes the importance of the content of the health record. Topics include the preparation and use of indexes and registers, format and uses of nomenclatures and classification systems, quantitative and qualitative analysis, documentation requirements, the health record's role in reimbursement, the prospective payment systems, other reimbursement systems in health care, electronic health information systems, and transcription. Prerequisites: Anatomy & Physiology II, Medical Terminology II, Introduction to the Health Care Field (taken prior to or concurrently), and ICD Coding I (may be taken concurrently).

HI401 HEALTH INFORMATION SEMINAR (3.0 credits/48 clock hours) This is the final course of study in the Health Information Technology program. Topics covered include current issues in the health information field, management of a health information department, professionalism, and a review of the HIM entry-level competencies and knowledge clusters for associate degree programs to prepare for the national accreditation examination. Prerequisites: Principles of Supervision and Health Records in Other Settings.

HI402 HEALTH INFORMATION SEMINAR (4.5 credits/48 clock hours) This is the final course of study in the Health Information Technology program. Topics covered include current issues in the health information field, management of a health information department, professionalism, and a review of the HIM entry-level competencies and knowledge clusters for associate degree programs to prepare for the national accreditation examination. Prerequisites: Principles of Supervision and Health Records in Other Settings.

HI208 HEALTH RECORDS IN OTHER SETTINGS (1.5 credits/30 clock hours) This course is designed to enhance the students' knowledge of the health record in settings other than acute care hospitals. The requirements for licensure, certification, accreditation, staffing, reimbursement, and record content that apply in ambulatory care, hospice, home health, long-term care, mental health, and rehabilitation settings will be presented. Prerequisites: Healthcare Quality Improvement, ICD Coding II, CPT-4, and Health Care Statistics.

HI233 HEALTH RECORDS IN OTHER SETTINGS (2.5 credits/30 clock hours) This course is designed to enhance the students' knowledge of the health record in settings other than acute care hospitals. The requirements for licensure, certification, accreditation, staffing, reimbursement, and record content that apply in ambulatory care, hospice, home health, long-term care, mental health, and rehabilitation settings will be presented. Prerequisites: Healthcare Quality Improvement, ICD Coding II, CPT-4, and Health Care Statistics.

HI223 HEALTHCARE QUALITY IMPROVEMENT (3.0 credits/60 clock hours) This course provides a in-depth study of quality assessment, quality improvement, medical staff credentialing, utilization management and risk management. The organizations that license, accredit and certify health care organizations and their standards will be presented. Prerequisites: Health Data Content and Reimbursement and ICD Coding I.

HI231 HEALTHCARE QUALITY IMPROVEMENT (4.5 credits/60 clock hours) This course provides a in-depth study of quality assessment, quality improvement, medical staff credentialing, utilization management and risk management. The organizations that license, accredit and certify health care organizations and their standards will be presented. Prerequisites: Health Data Content and Reimbursement and ICD Coding I.

GE130 HISTORY OF INFORMATION TECHNOLOGY (2.0 credit/24 clock hours) In this course students will learn the history of computers and information technology. Students will study historical events that led to the creation of the computers of today and how they impact daily business operations. Prerequisite: None.

GE172 HUMAN RELATIONS IN THE WORKPLACE (1.5 credits/36 clock hours) This course is designed to be a study of interpersonal communication issues in the workplace. Specific communication skills that foster good working relationships and teamwork are practiced, such as perception checking, listening, I language, supportive language, and 5-part assertion messages. Other topics include gender communication differences, conflict resolution techniques, diversity in the workplace, defensiveness, non-verbal communication, and communication styles. Through case studies, role-plays, and practical application exercises, students will practice and utilize the aforementioned strategies in possible workplace scenarios. Prerequisite: None.

GE178 HUMAN RELATIONS IN THE WORKPLACE (2.5 credits/36 clock hours) This course is designed to be a study of interpersonal communication issues in the workplace. Specific communication skills that foster good working relationships and teamwork are practiced, such as perception checking, listening, I language, supportive language, and 5-part assertion messages. Other topics include gender communication differences, conflict resolution techniques, diversity in the workplace, defensiveness, non-verbal communication, and communication styles. Through case studies, role-plays, and practical application exercises, students will practice and utilize the aforementioned strategies in possible workplace scenarios. Prerequisite: None.

MG209 HUMAN RESOURCE MANAGEMENT (1.5 credits/36 clock hours) Through readings, case studies, and lectures, the student will become familiar with various aspects of human resources. Topics will include interviewing/recruiting, performance management, regulatory/legal compliance, employee relations, communications, policy administration, and recordkeeping (payroll, personnel files, etc.). Prerequisite: None.

MG214 HUMAN RESOURCE MANAGEMENT (2.5 credits/36 clock hours) Through readings, case studies, and lectures, the student will become familiar with various aspects of human resources. Topics will include interviewing/recruiting, performance management, regulatory/legal compliance, employee relations, communications, policy administration, and recordkeeping (payroll, personnel files, etc.). Prerequisite: None.

CJ106 HUMAN RIGHTS ISSUES IN CRIMINAL JUSTICE (2.0 credits/36 clock hours) This course examines the idea of human rights, its political and legal universality, and historical evolution. Major emphasis is on the concept of ethics and legal mechanisms developed to protect them within the criminal justice system. The course addresses ethical dilemmas through different stages of the criminal justice process (criminal investigation, trial, sentencing, punishment), seeking to determine if constitution, statues, and judicial decisions establish foundation for the policy which balances conflicting interest of the law. Prerequisite: None.

CJ121 HUMAN RIGHTS ISSUES IN CRIMINAL JUSTICE (3.0 credits/36 clock hours) This course examines the idea of human rights, its political and legal universality, and historical evolution. Major emphasis is on the concept of ethics and legal mechanisms developed to protect them within the criminal justice system. The course addresses ethical dilemmas through different stages of the criminal justice process (criminal investigation, trial, sentencing, punishment), seeking to determine if constitution, statues, and judicial decisions establish foundation for the policy which balances conflicting interest of the law. Prerequisite: None.

HI226 ICD CODING I (4.5 credits/60 clock hours) This course focuses on the International Classification of Diseases and Procedure Coding Systems (ICD-10-CM and ICD-10-PCS). The course will introduce the student to the professional standards for coding and reporting of diagnostic inpatient and outpatient services and inpatient procedure services. Coding characteristics, conventions and guidelines will be applied in identifying and accurately assigning codes to diseases, conditions and procedures. Health records, manual coding methods, and coding references will be utilized in the coding process. Prerequisites: Anatomy & Physiology II and Medical Terminology II.

HI214 ICD CODING II (3.0 credits/60 clock hours) This course focuses on the ICD-10-CM and ICD-10-PCS classification systems. The course will further introduce the student to the professional standards for coding and reporting of diagnostic inpatient and outpatient services and inpatient procedure services. Coding characteristics, conventions and guidelines will be applied in identifying and accurately assigning codes to diseases, conditions and procedures. Health records, manual and computerized coding methods, and coding references will be utilized in the coding process. Prerequisite: ICD Coding I.

HI227 ICD CODING II (4.5 credits/60 clock hours) This course focuses on the ICD-10-CM and ICD-10-PCS classification systems. The course will further introduce the student to the professional standards for coding and reporting of diagnostic inpatient and outpatient services and inpatient procedure services. Coding characteristics, conventions and guidelines will be applied in identifying and accurately assigning codes to diseases, conditions and procedures. Health records, manual and computerized coding methods, and coding references will be utilized in the coding process. Prerequisite: ICD Coding I.

CP312 INFORMATION TECHNOLOGY CAPSTONE PROJECT (5.0 credits/120 clock hours) This course serves as the practicum for the IT program. Students will design system solutions, writing (or choosing) the actual software, making hardware recommendations, designing users' guides, and (where appropriate) training users of the system. Students will document all details of the process by preparing a comprehensive, in-depth project portfolio. Prerequisites: Intro to SQL Databases or Microsoft Access, Hardware, Project Management, Introduction to Programming & Logic.

CP331 INFORMATION TECHNOLOGY CAPSTONE PROJECT (7.0 credits/120 clock hours) This course serves as the practicum for the IT program. Students will design system solutions, writing (or choosing) the actual software, making hardware recommendations, designing users' guides, and (where appropriate) training users of the system. Students will document all details of the process by preparing a comprehensive, in-depth project portfolio. Prerequisites: Intro to SQL Databases or Microsoft Access, Hardware, Project Management, Introduction to Programming & Logic.

CP604 INFORMATION TECHNOLOGY INTERNSHIP (9.0 credits/378 clock hours) To fulfill the requirements of the internship, the student will participate throughout his/her final term in an on-the-job, work-experience program which is directly related to a computer-oriented area of business. Through hands-on computer experience under the supervision of a computer professional, the student will have the opportunity to enhance his/her education, computer skills and personal skills as well as an opportunity to observe the interaction of personnel within an employment environment. Prerequisite: As per internship policy.

CP605 INFORMATION TECHNOLOGY INTERNSHIP (11.0 credits/330 clock hours) To fulfill the requirements of the internship, the student will participate throughout his/her final term in an on-the-job, work-experience program which is directly related to a computer-oriented area of business. Through hands-on computer experience under the supervision of a computer professional, the student will have the opportunity to enhance his/her education, computer skills and personal skills as well as an opportunity to observe the interaction of personnel within an employment environment. Prerequisite: As per internship policy.

OS301 INTEGRATED MICROSOFT OFFICE (3.0 credits/60 clock hours) This is a capstone applications course after the student has mastered the basic concepts of word processing, spreadsheet, database, and presentation software. The student will apply this knowledge through office simulations. Each student will determine what software package to use to produce the work assignments. Electronic mail will be used to receive instructions and to communicate with the instructor. Topics covered are internet research, organizing work load, scheduling with Outlook, producing spreadsheets and graphs, creating database tables and reports, preparing documents and presentations, integrating information, and working with document storage and retrieval. Prerequisite: Business English II.

OS306 INTEGRATED MICROSOFT OFFICE (4.0 credits/60 clock hours) This is a capstone applications course after the student has mastered the basic concepts of word processing, spreadsheet, database, and presentation software. The student will apply this knowledge through office simulations. Each student will determine what software package to use to produce the work assignments. Electronic mail will be used to receive instructions and to communicate with the instructor. Topics covered are internet research, organizing work load, scheduling with Outlook, producing spreadsheets and graphs, creating database tables and reports, preparing documents and presentations, integrating information, and working with document storage and retrieval. Prerequisite: Business English II.

AC211 INTERMEDIATE ACCOUNTING I (3.5 credits/60 clock hours) Intermediate Accounting I is an in-depth study of financial accounting, concentrating on the accounting profession as a whole. A more detailed study is made of the income statement, balance sheet, and cash flow statement along with current assets including cash, receivables, and inventory. Prerequisites: Accounting I, II, III.

AC218 INTERMEDIATE ACCOUNTING I (5.0 credits/60 clock hours) Intermediate Accounting I is an in-depth study of financial accounting, concentrating on the accounting profession as a whole. A more detailed study is made of the income statement, balance sheet, and cash flow statement along with current assets including cash, receivables, and inventory. Prerequisites: Accounting I, II, III.

AC301 INTERMEDIATE ACCOUNTING II (3.5 credits/60 clock hours) Intermediate Accounting II is a continuation of an in-depth study of financial accounting, concentrating on accounting for non-current assets, debt financing, stockholder's equity, and financial statement analysis. Prerequisite: Intermediate Accounting I.

AC306 INTERMEDIATE ACCOUNTING II (5.0 credits/60 clock hours) Intermediate Accounting II is a continuation of an in-depth study of financial accounting, concentrating on accounting for non-current assets, debt financing, stockholder's equity, and financial statement analysis. Prerequisite: Intermediate Accounting I.

AC117 INTRODUCTION TO ACCOUNTING (5.0 credits/60 clock hours) The purpose of this course is to acquaint the student with the relationships between accounting and business and to define basic accounting terminology. Accounting is introduced as the common financial language used in business organizations. The course emphasizes the importance of following accepted accounting principles so that a business' financial position can be appropriately evaluated. In addition, students are introduced to the double-entry system, journals, ledgers, trial balances, worksheets, preparation of the income statement, statement of owner's equity, and balance sheet; adjusting, and closing entries; accounting for merchandising operations, and classified financial statement formats. The sole proprietorship business entity is used throughout this course as it pertains to service-oriented and merchandising operations. Prerequisite: None.

GE105 INTRODUCTION TO APPLIED ALGEBRA (4.0 credits/60 clock hours) Introduction to Applied Algebra is designed to cover basic mathematical and algebraic concepts with an emphasis in business practices. The topics that will be covered are review of decimals, fractions and percentages, ratios and proportions, basic mathematical definitions, various operations with signed numbers, order of operations, exponents, simplifying algebraic expressions, evaluating algebraic expressions and everyday formulas, manipulating and solving equations and everyday formulas, measures of central tendency and graphing. Each concept will involve word problems that are applied in business practice careers. This course forms the foundation for future courses in mathematics, accounting and software application courses. Prerequisite: None.

MG110 INTRODUCTION TO BUSINESS (3.0 credits/60 clock hours) This course is designed to prepare the student to interact with the business world in a knowledgeable manner whether he/she owns the business, works for the business, or just deals with the business as a customer. The course will cover areas including forms of business ownership; the process of management and empowerment; the global dimensions of business; working in teams; promotional strategy; and labor/management relations. Prerequisite: None.

MG115 INTRODUCTION TO BUSINESS (5.5 credits/60 clock hours) This course is designed to prepare the student to interact with the business world in a knowledgeable manner whether he/she owns the business, works for the business, or just deals with the business as a customer. The course will cover areas including forms of business ownership; the process of management and empowerment; the global dimensions of business; working in teams; promotional strategy; and labor/management relations. Prerequisite: None.

GE133 INTRODUCTION TO BUSINESS STATISTICS (3.5 credits/48 clock hours) This introductory course is designed to give the students a basic knowledge of statistics used in business. Although most students do not plan to become statisticians, a working knowledge of descriptive and inferential statistics is required for most entry-level positions. The following areas are covered: collection of data, introduction to sampling concepts, deceptive statistics, frequency distributions, graphing, cross tabulations, measures of central tendency, measures of dispersion, and an introduction of probability concepts, hypothesis testing with one sample and related areas. Prerequisite: Applied Algebra.

GE174 INTRODUCTION TO BUSINESS STATISTICS (2.5 credits/48 clock hours) This introductory course is designed to give the students a basic knowledge of statistics used in business. Although most students do not plan to become statisticians, a working knowledge of descriptive and inferential statistics is required for most entry-level positions. The following areas are covered: collection of data, introduction to sampling concepts, deceptive statistics, frequency distributions, graphing, cross tabulations, measures of central tendency, measures of dispersion, and an introduction of probability concepts, hypothesis testing with one sample and related areas. Prerequisite: Applied Algebra.

GA113 INTRODUCTION TO COMPUTER GRAPHICS (PHOTOSHOP) (4.5 credits/60 clock hours) This course is based on the software Adobe Photoshop. Students will learn how to source images as well as scan photographs and manipulate them using the Photoshop tool box and special effects filters. They will learn the basics in color correcting photos; mask image using channels; creating digital artwork and use it for both web and print applications. Prerequisite: None.

CJ122 INTRODUCTION TO CORRECTIONS (5.0 credits/60 clock hours) The course is an overview of the corrections field: courts, sentencing, adult institutions, probation, and parole are included as well as the role of the criminal justice professional. The various types and forms of community corrections will also be analyzed. The course will be an active and interactive learning experience and in addition to lectures will include a tour of a correctional facility and special presentations by experienced corrections professionals. The student will build a framework for understanding sentencing and correctional practices that will benefit the student regardless of career choices in the criminal justice system. Prerequisite: None.

CJ123 INTRODUCTION TO CRIMINAL JUSTICE (5.0 credits/60 clock hours) This course is an introductory survey of the American criminal justice system. The class will include discussions of the police, defense and prosecuting attorneys, courts, institutional corrections, community-based corrections, and the juvenile justice system. The definition and the measurement of crime, and various efforts to explain the causes of crime are covered. General issues for consideration include discretion in the administration of criminal justice; due process; and contemporary changes in the American criminal justice system. Prerequisite: None.

CJ124 INTRODUCTION TO CRIMINAL LAW (5.0 credits/60 clock hours) This course takes students on a study of the basic purposes of the criminal law, essential elements of criminal liability, criminal defenses and substantive criminal laws. Students explore issues of criminal *mens rea*, liability for inchoate offenses and justification principles. Homicide and other offenses against the person are discussed in detail. Prerequisite: None.

OS104 INTRODUCTION TO DOCUMENT PROCESSING (4.5 credits/60 clock hours) This course is designed to teach the students the correct keyboarding techniques and to help the student operate the letters, numbers, symbols and number pad by touch. Introduction to letters, memos, and simple reports will be taught. Prerequisite: None.

IM107 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (3.0 credit/36 clock hours) GIS (Geographic Information Systems) is a computer-based tool that uses spatial (geographic) data to analyze and solve real-world problems. This course is designed to introduce the student to the basic principles and techniques of GIS. The lab material will emphasize GIS data collection, entry, storage, analysis, and output using ArcGIS. Prerequisite: None.

CJ125 INTRODUCTION TO LAW ENFORCEMENT (4.5 credits/48 clock hours) This course provides an understanding of the role and function of policing in a modern democratic society. It examines contemporary American policing in light of its roots, and compares it to policing in other countries. Discussions are focused on a wide spectrum of law enforcement agencies, identifying the most important characteristics of city, state, and federal police work. Particular attention is paid to current issues and trends in law enforcement, including race, index crimes, drugs, disorder, conflict, and riots. Prerequisite: None.

MG111 INTRODUCTION TO MANAGEMENT (3.0 credits/36 clock hours) Concepts of management, including basic theories, planning, controlling, organizing, staffing, and training will be presented. Emphasis is placed on human relations, motivation, leadership, and communication. Preparation of budgets, time management, dealing with unions, and writing job descriptions will also be covered. Prerequisite: None.

DS237 INTRODUCTION TO MEDICAL IMAGING (3.5 credits/60 clock hours) Introduction to various diagnostic imaging modalities in use today and the history of each modality is presented which includes Radiography, Computed Tomography, Magnetic Resonance Imaging, Nuclear Medicine and Ultrasound. Upon completion of the course the student will understand the advantages and disadvantages of each imaging modality when looking for pathology. The student will understand the importance of each modality and its contribution to the diagnostic imaging world. An introduction to PACS, RIS, HIS, EMR systems and their connection to patient records and image archive platforms are presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS285 INTRODUCTION TO MEDICAL IMAGING (5.5 credits/60 clock hours) Introduction to various diagnostic imaging modalities in use today and the history of each modality is presented which includes Radiography, Computed Tomography, Magnetic Resonance Imaging, Nuclear Medicine and Ultrasound. Upon completion of the course the student will understand the advantages and disadvantages of each imaging modality when looking for pathology. The student will understand the importance of each modality and its contribution to the diagnostic imaging world. An introduction to PACS, RIS, HIS, EMR systems and their connection to patient records and image archive platforms are presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

CP127 INTRODUCTION TO OPERATING SYSTEMS (2.5 credits/36 clock hours) This introductory course is designed to provide students a fundamental understanding of operating systems. The course covers topics such as: client operating systems, server operating systems, Windows operating systems, Linux operating systems, Macintosh operating systems, current and past operating systems, file management, installation, and virtual machines. Prerequisite: None.

CP128 INTRODUCTION TO PROGRAMMING & LOGIC (4.5 credits/60 clock hours) This introductory course is designed to give students an understanding of the basic methods and concepts of problem-solving and applying them to a programming language. The course will focus on logic

and critical thinking as it pertains to the problem-solving process. The student will be introduced to standard design tools, such as flowcharts and the UML. Prerequisite: None.

CP129 INTRODUCTION TO SQL DATABASES (4.0 credits/60 clock hours) This course will cover beginning and intermediate database topics. The student will learn what a database is and how it is used in business. The student will also learn how to design and build a database, tables, reports, queries and forms using both an office application and using the SQL language. Prerequisite: None.

GE181 INTRODUCTION TO STATISTICS FOR CRIMINAL JUSTICE (3.0 credits/36 clock hours) Introduction to Statistics for Criminal Justice is designed to review basic mathematical concepts and cover a basic knowledge of statistics used in criminal justice research. The topics that will be covered are order of operations, evaluating formulas, percentages, frequency distributions, graphing, cross tabulations, central tendencies, and dispersion. Prerequisite: None.

HI228 INTRODUCTION TO THE HEALTH CARE FIELD (4.0 credits/60 clock hours) This course introduces the student to the healthcare delivery system and the professionals involved in healthcare. Topics include the history of healthcare; the organizations that set standards or regulations in healthcare; the types of settings in which healthcare is rendered; the organization of hospitals and their medical staffs; the content, uses and format of the patient record; methods of storage, retention and retrieval of patient records; and medical staff committees. Prerequisites: Anatomy & Physiology I and Medical Terminology I.

LE120 INTRODUCTION TO THE LAW OF TORTS (3.0 credits/36 clock hours) This course is designed to provide students an overview of tort law and the civil legal system. Topics to be covered include: negligence and its defenses; special negligence actions, such as premises liability, vicarious liability, product liability and strict liability; and intentional torts. Prerequisite: None.

CJ114 INTRODUCTION TO VICTIMOLOGY (3.0 credits/60 clock hours) This course focuses on the criminal justice system's treatment of crime victims, victim programs and services, and the impact of victimization on individuals and communities. The course will discuss why victims have been "rediscovered" recently, why they often do not report crimes to the police, how some victims might share responsibility for the crimes with the offenders, how they can be repaid for their losses through offender restitution and government compensation; and what new services are available to help victims prevent crime and survive attacks. Prerequisite: None.

CJ126 INTRODUCTION TO VICTIMOLOGY (4.5 credits/60 clock hours) This course focuses on the criminal justice system's treatment of crime victims, victim programs and services, and the impact of victimization on individuals and communities. The course will discuss why victims have been "rediscovered" recently, why they often do not report crimes to the police, how some victims might share responsibility for the crimes with the offenders, how they can be repaid for their losses through offender restitution and government compensation; and what new services are available to help victims prevent crime and survive attacks. Prerequisite: None.

CD312 IT CAREER AND CERTIFICATION PREPARATION (2.0 credits/21 clock hours) This course supplements the on-the-job training of the internship. The purpose is to help students become more professional by assisting the student to be better prepared for the IT career and various certification examinations as provided by applicable professional organizations. Prerequisite: As per the internship policy.

CP337 JAVA PROGRAMMING (4.5 credits/60 clock hours) This course in Java will teach students the fundamentals of Java including object oriented programming. Students will follow the program development life cycle to create programs that reinforce the topics covered. Prerequisite: Introduction to Programming & Logic.

CP279 JAVASCRIPT (3.0 credits/60 clock hours) This course will introduce students to the concept of client side scripting using languages such as JavaScript. Prerequisites: Web Site Design and Introduction to Programming & Logic.
CP296 JAVASCRIPT (4.5 credits/60 clock hours) This course will introduce students to the concept of client side scripting using languages such as JavaScript. Prerequisites: Web Site Design and Introduction to Programming & Logic.

CD205 JOB SEARCH PREPARATION I (.5 credit/12 clock hours) This course prepares students for job interview skills and the job search process. Topics include interviewing skills and job-seeking methods. Students will role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. Prerequisite: None.

CD208 JOB SEARCH PREPARATION I (1.0 credit/12 clock hours) This course prepares students for job interview skills and the job search process. Topics include interviewing skills and job-seeking methods. Students will role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. Prerequisite: None.

CD210 JOB SEARCH PREPARATION I (1.0 credit/10 clock hours) This course prepares students for job interview skills and the job search process. Topics include interviewing skills and job-seeking methods. Students will role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. Prerequisite: None.

CD206 JOB SEARCH PREPARATION II (.5 credit/12 clock hours) This course prepares students for the job search process. Topics include informational interviews, resume development, cover letters and thank-you letters. Students will conduct an informational interview with a professional in their field of interest. Prerequisite: None.

CD209 JOB SEARCH PREPARATION II (1.0 credit/12 clock hours) This course prepares students for the job search process. Topics include informational interviews, resume development, cover letters and thank-you letters. Students will conduct an informational interview with a professional in their field of interest. Prerequisite: None.

CD213 JOB SEARCH PREPARATION II (1.0 credit/10 clock hours) This course prepares students for the job search process. Topics include informational interviews, resume development, cover letters and thank-you letters. Students will conduct an informational interview with a professional in their field of interest. Prerequisite: None.

CD204 JOB SEARCH SKILLS (1.0 credit/24 clock hours) This course prepares students for the job search process. Topics include skill identification, resume development, cover letters and thank-you letters, interviewing skills, and job-seeking methods. Students will conduct an

informational interview with a professional in their field of interest, role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. Prerequisite: None.

CD207 JOB SEARCH SKILLS (2.0 credit/24 clock hours) This course prepares students for the job search process. Topics include skill identification, resume development, cover letters and thank-you letters, interviewing skills, and job-seeking methods. Students will conduct an informational interview with a professional in their field of interest, role-play a mock interview in the classroom to practice interviewing skills, and start to develop a list of prospective employers for which they would like to work. Prerequisite: None.

CJ214 JUVENILE DELINQUENCY (3.0 credits/60 clock hours) This course involves an intensive analysis of delinquent behavior by juveniles, with special emphasis upon the unique facets of delinquency (types of origins) which differentiate it from other forms of criminal behavior. It examines the legal rights, treatment, and rehabilitation of juveniles who have been adjudicated "delinquent". Special attention is given to the problems inherent in the police handling of juveniles and the functions of juvenile courts. Prerequisite: None.

CJ230 JUVENILE DELINQUENCY (4.5 credits/60 clock hours) This course involves an intensive analysis of delinquent behavior by juveniles, with special emphasis upon the unique facets of delinquency (types of origins) which differentiate it from other forms of criminal behavior. It examines the legal rights, treatment, and rehabilitation of juveniles who have been adjudicated "delinquent". Special attention is given to the problems inherent in the police handling of juveniles and the functions of juvenile courts. Prerequisite: None.

OS103 KEYBOARDING (1.0 credits/20 clock hours) This course is designed to teach the students the correct keyboarding techniques and to help the student operate the letters, numbers, symbols and number pad by touch. Prerequisite: None.

MA105 LABORATORY PROCEDURES I (3.0 credits/60 clock hours) This course teaches the student about collecting specimens and performing a variety of laboratory procedures The student learns to properly perform procedures such as medication administration and dosage calculations, injections, and urinalysis. Prerequisite: Clinical Skills.

MA111 LABORATORY PROCEDURES I (4.0 credits/60 clock hours) This course teaches the student about collecting specimens and performing a variety of laboratory procedures The student learns to properly perform procedures such as medication administration and dosage calculations, injections, and urinalysis. Prerequisite: Clinical Skills.

MA205 LABORATORY PROCEDURES II (3.0 credits/60 clock hours) This course provides additional information about laboratory procedures. Emphasis is placed on blood collection and testing. Prerequisites: Laboratory Procedures I.

MA207 LABORATORY PROCEDURES II (4.5 credits/60 clock hours) This course provides additional information about laboratory procedures. Emphasis is placed on blood collection and testing. Prerequisite: Laboratory Procedures I.

DS301 LAW AND ETHICS IN SONOGRAPHY (2.0 credits/36 clock hours) Various medical/legal/ethical situations will be presented and discussed. Medical malpractice and negligence will be highlighted with multiple court cases and possible scenarios researched and reviewed. Ethical and legal standards of the sonography professional will be presented. Discussion of how to professionally relate to various cultures will be conducted. The legal responsibility of sonographers when dealing with documentation, record keeping, privacy and confidentiality will be introduced. Other topics to be covered include patient rights, labor law, employment discrimination laws, risk management, and safety regulations and practices. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS328 LAW AND ETHICS IN SONOGRAPHY (3.0 credits/36 clock hours) Various medical/legal/ethical situations will be presented and discussed. Medical malpractice and negligence will be highlighted with multiple court cases and possible scenarios researched and reviewed. Ethical and legal standards of the sonography professional will be presented. Discussion of how to professionally relate to various cultures will be conducted. The legal responsibility of sonographers when dealing with documentation, record keeping, privacy and confidentiality will be introduced. Other topics to be covered include patient rights, labor law, employment discrimination laws, risk management, and safety regulations and practices. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

IM233 MACHINING PROCESSES (3.5 credits/48 clock hours) A study of machine tools, tool room safety, measurement systems, bench and hand tools, fasteners, and high speed tool technology. The students learn how to calculate feed rates and spindle speeds for proper machine tool operation. In addition, students select the proper tooling for all types of machining operations. Prerequisite: Geometry & Trigonometry for Engineering Technology.

IM252 MACHINING PROCESSES (2.5 credits/48 clock hours) A study of machine tools, tool room safety, measurement systems, bench and hand tools, fasteners, and high speed tool technology. The students learn how to calculate feed rates and spindle speeds for proper machine tool operation. In addition, students select the proper tooling for all types of machining operations. Prerequisite: Geometry & Trigonometry for Engineering Technology.

IM219 MACHINING PROCESSES LAB (0.5 credits/24 clock hours) A study of machine tools, tool room safety, measurement systems, bench and hand tools, fasteners, and high speed tool technology. The students spend lab time learning how to successfully operate a horizontal band saw, vertical mill, lathe, and drill press to produce simple parts, including internal and external threads. The students learn proper work-holding methods and tool selection. Prerequisites: Geometry & Trigonometry for Engineering Technology. Taken concurrently with Machining Processes.

IM234 MACHINING PROCESSES LAB (2.0 credits/24 clock hours) A study of machine tools, tool room safety, measurement systems, bench and hand tools, fasteners, and high speed tool technology. The students spend lab time learning how to successfully operate a horizontal band saw, vertical mill, lathe, and drill press to produce simple parts, including internal and external threads. The students learn proper work-holding methods and tool selection. Prerequisites: Geometry & Trigonometry for Engineering Technology. Taken concurrently with Machining Processes.

MG113 MANAGEMENT I (4.5 credits/60 clock hours) The purpose of this course is to acquaint the students with the basics of management, including basic management terminology. Concepts of management are explored from a historical and practical perspective. The four functions of management—planning, organizing, leading, and controlling—are defined. Managerial planning is examined and qualitative and quantitative planning techniques are introduced. Organizational design and structure is analyzed to determine its impact on goal attainment. Prerequisite: None.

MG114 MANAGEMENT II (4.5 credits/60 clock hours) Management II expands on principles introduced in Management I. This course begins by examining the role of the manager as a supervisor. Techniques of motivation and human resource management are explored. Total Quality Management and the role of the manager in the control function are defined. Methods for creating control systems including inventory control, budget creation, and quality management are analyzed. Prerequisite: None.

MG109 MANAGEMENT & SUPERVISION (3.5 credits/60 clock hours) Concepts of management are explored from a historical and a practical perspective. The four functions of management (planning, organizing, leading and controlling) are examined. Organizational design and structure are analyzed to determine the impact on goal attainment. The management hierarchy is studied and special emphasis is placed on the skills required for effective supervision. Prerequisite: None.

MG112 MANAGEMENT & SUPERVISION (5.0 credits/60 clock hours) Concepts of management are explored from a historical and a practical perspective. The four functions of management (planning, organizing, leading and controlling) are examined. Organizational design and structure are analyzed to determine the impact on goal attainment. The management hierarchy is studied and special emphasis is placed on the skills required for effective supervision. Prerequisite: None.

AC216 MANAGERIAL ACCOUNTING WITH QUICKBOOKS (3.0 credits/60 clock hours) Managerial Accounting with QuickBooks begins with an emphasis on the use of accounting data by internal managers of a business. The course highlights the difference between financial and managerial accounting and the methods of preparing comprehensive budgets. Topics covered include purchase budgets, cash budgets, and budgeted income statements and balance sheets. The student will then utilize his/her background in accounting with an introduction to QuickBooks Pro, a computerized accounting program. The student will have hands-on instruction in recording vendor transactions, customer transactions, inventory transactions, adjusting entries, and new company set-up. Prerequisite: Accounting II taken prior to or concurrently.

AC219 MANAGERIAL ACCOUNTING WITH QUICKBOOKS (4.5 credits/60 clock hours) Managerial Accounting with QuickBooks begins with an emphasis on the use of accounting data by internal managers of a business. The course highlights the difference between financial and managerial accounting and the methods of preparing comprehensive budgets. Topics covered include purchase budgets, cash budgets, and budgeted income statements and balance sheets. The student will then utilize his/her background in accounting with an introduction to QuickBooks Pro, a computerized accounting program. The student will have hands-on instruction in recording vendor transactions, customer transactions, inventory transactions, adjusting entries, and new company set-up. Prerequisite: Accounting II taken prior to or concurrently.

MK204 MARKET RESEARCH & STATISTICS (4.0 credits/60 clock hours) A project approach to marketing research will be presented. Actual hands-on experience in the area of collecting, analyzing and using marketing data will be stressed along with information on the uses of marketing research. Descriptive and inferential statistics as they apply to marketing research and the business world will be explored. Emphasis will be placed on studying measures of central tendency, measures of variability, probability, and sampling. Prerequisite: Marketing.

MK213 MARKET RESEARCH & STATISTICS (2.5 credits/60 clock hours) A project approach to marketing research will be presented. Actual hands-on experience in the area of collecting, analyzing and using marketing data will be stressed along with information on the uses of marketing research. Descriptive and inferential statistics as they apply to marketing research and the business world will be explored. Emphasis will be placed on studying measures of central tendency, measures of variability, probability, and sampling. Prerequisite: Marketing.

MK107 MARKETING (4.5 credits/60 clock hours) An introduction to the principles of marketing. Through readings, case studies and lecture, the student will become familiar with consumer behavior as well as the 4 P's (price, promotion, place and product). The marketing of services and non-business situations will also be discussed. Prerequisite: None.

IM238 MATERIALS SCIENCE (5.0 credits/60 clock hours) This course introduces students to materials used in the civil engineering field and in manufacturing. These materials include metals, plastics, concrete, soils, and wood. Specific areas of study include structure, properties, and testing of materials. Prerequisite: Applied Algebra.

GE179 MATHEMATICS FOR HEALTH CARE PROFESSIONALS (4.0 credits/60 clock hours) Mathematics for Health Care Professionals is designed to cover basic mathematical and algebraic concepts used by health care professionals in their career. The topics that will be covered are review of the numerical systems, decimals and fractions, order of operations evaluating algebraic expressions, solving equations and formulas, ratios, proportions and percentages, 24-hour clock, Roman numeral system, measurement conversion and medication dosage calculations. Prerequisite: None.

IM239 MECHANICAL CAD (4.5 credits/60 clock hours) An intermediate course of 2D drafting using AutoCAD. This course will present advanced commands and techniques to create, annotate, revise and print technical drawings. This course will build on the first CAD class to allow the student to become more proficient with AutoCAD. The course material will be reinforced through hands-on examples and projects. Prerequisite: Technical Drawing II.

IM243 MECHANICAL DESIGN (4.0 credits/60 clock hours) Students learn to identify, describe, select, assemble, and operate machine elements commonly found in mechanical devices. The machine elements covered include: belt and chain drives, gears, shafts, keys, bearings, cams, springs, and linkages. Also included is a design project for the students to incorporate machine elements into a working machine. Prerequisites: Machining Processes and Applied Algebra.

IM250 MECHANICAL DESIGN (3.0 credits/60 clock hours) Students learn to identify, describe, select, assemble, and operate machine elements commonly found in mechanical devices. The machine elements covered include: belt and chain drives, gears, shafts, keys, bearings, cams, springs, and linkages. Also included is a design project for the students to incorporate machine elements into a working machine. Prerequisites: Machining Processes and Applied Algebra.

CJ223 MEDIA AND CRIMINAL JUSTICE (3.0 credits/60 clock hours) This course is designed to illustrate how media coverage and television programs influence the public's perception of criminal justice. The class will explain how "The CSI-Effect's" influence reinforces America's troubled War on Drugs, poverty and immigration and produces a greater intolerance of official misconduct and the belief of wrongful convictions. The course will explore common misconceptions and their consequences. Critical analysis will be done on information promoted by the government and media. Prerequisite: None.

CJ231 MEDIA AND CRIMINAL JUSTICE (3.0 credits/36 clock hours) This course is designed to illustrate how media coverage and television programs influence the public's perception of criminal justice. The class will explain how "The CSI-Effect's" influence reinforces America's troubled War on Drugs, poverty and immigration and produces a greater intolerance of official misconduct and the belief of wrongful convictions. The course will explore common misconceptions and their consequences. Critical analysis will be done on information promoted by the government and media. Prerequisite: None.

GA122 MEDIA AND DESIGN STUDY (4.5 credits/60 clock hours) This course will provide the students with an in-depth study of the history of graphic design and typography, and how they have impacted society, from cave painting and the introduction of printing to modern elements and advancements in graphic design. Prerequisite: None.

MD237 MEDICAL ADMINISTRATIVE SKILLS I (3.0 credits/60 clock hours) This course introduces students to common administrative procedures performed in both small and large medical practice via a Practice Management System. Students will learn to input patient information, bill insurance companies and schedule appointments. The student will be able to run common reports associated with the medical practice, including day sheets, patient ledgers, and other financial reports that are important to the day-by-day financial operations of the medical practice. Prerequisites: Microsoft Word or Microsoft Office (concurrently) and Medical Terminology II. Taken concurrently with CPT-4.

MD240 MEDICAL ADMINISTRATIVE SKILLS I (4.5 credits/60 clock hours) This course introduces students to common administrative procedures performed in both small and large medical practice via a Practice Management System. Students will learn to input patient information, bill insurance companies and schedule appointments. The student will be able to run common reports associated with the medical practice, including day sheets, patient ledgers, and other financial reports that are important to the day-by-day financial operations of the medical practice. Prerequisites: Microsoft Word or Microsoft Office (concurrently) and Medical Terminology II. Taken concurrently with CPT-4.

MD301 MEDICAL ADMINISTRATIVE SKILLS II (2.5 credits/60 clock hours) This course is designed to build important skills for handling computerized billing tasks in medical offices. Computerized billing tasks are completed with a patient billing software program, using a medical office setting and related patient data. Prerequisite: Medical Administrative Skills I and taken concurrently with Medical Insurance Forms.

MD303 MEDICAL ADMINISTRATIVE SKILLS II (3.5 credits/60 clock hours) This course is designed to build important skills for handling computerized billing tasks in medical offices. Computerized billing tasks are completed with a patient billing software program, using a medical office setting and related patient data. Prerequisite: Medical Administrative Skills I and taken concurrently with Medical Insurance Forms.

MA602 MEDICAL ASSISTANT INTERNSHIP (9.0 credits/378 clock hours) The student will work in a professional atmosphere under the supervision of experienced professionals to fulfill the requirements of the internship. The experience will provide the student with an opportunity to enhance his/her education, personal skills, and observe the interaction of personnel within an office setting. Prerequisite: As per internship policy.

MA603 MEDICAL ASSISTANT INTERNSHIP (11.0 credits/330 clock hours) The student will work in a professional atmosphere under the supervision of experienced professionals to fulfill the requirements of the internship. The experience will provide the student with an opportunity to enhance his/her education, personal skills, and observe the interaction of personnel within an office setting. Prerequisite: As per internship policy.

MD205 MEDICAL DOCUMENTATION APPLICATIONS (3.5 credits/60 clock hours) The student is further introduced to the proper documentation of medical reports: history and physical exams, operative reports, discharge summaries, consultations, and ancillary department reports. Prerequisite: Fundamentals of Medical Documentation.

MD209 MEDICAL DOCUMENTATION APPLICATIONS (2.0 credits/60 clock hours) The student is further introduced to the proper documentation of medical reports: history and physical exams, operative reports, discharge summaries, consultations, and ancillary department reports. Prerequisite: Fundamentals of Medical Documentation.

MD207 MEDICAL INSURANCE FORMS (3.0 credits/60 clock hours) This course introduces the student to medical insurance and handling of claims (CMS-1500 and UB-04) for various types of third-party carriers including managed care, Medicare, Medicaid (Pennsylvania) and TRICARE. The guidelines for coding diagnoses for outpatient services will be presented and coding of professional services utilizing CPT will be further emphasized. Prerequisite: ICD Coding II and CPT-4.

MD241 MEDICAL INSURANCE FORMS (4.5 credits/60 clock hours) This course introduces the student to medical insurance and handling of claims (CMS-1500 and UB-04) for various types of third-party carriers including managed care, Medicare, Medicaid (Pennsylvania) and TRICARE. The guidelines for coding diagnoses for outpatient services will be presented and coding of professional services utilizing CPT will be further emphasized. Prerequisites: ICD Coding II and CPT-4.

HI205 MEDICAL LEGAL ASPECTS (2.0 credits/36 clock hours) This course is the study of basic concepts, terminology, and principles of law and their application to the health care field and health information departments. Legal issues dealing with confidentiality of health information, release of health information, consent forms, liability of health care providers, HIPAA regulations, and other current issues will be presented. Prerequisite: Introduction to the Health Care Field.

HI229 MEDICAL LEGAL ASPECTS (3.0 credits/36 clock hours) This course is the study of basic concepts, terminology, and principles of law and their application to the health care field and health information departments. Legal issues dealing with confidentiality of health information, release of health information, consent forms, liability of health care providers, HIPAA regulations, and other current issues will be presented. Prerequisite: Introduction to the Health Care Field.

MA304 MEDICAL SEMINAR (1.5 credits/36 clock hours) This course is designed to implement knowledge and skills learned throughout the program. The emphasis is to assist the transition of student to employee. Role play/simulations of day-to-day medical office encounters are incorporated. Prerequisites: Anatomy & Physiology II and Lab II, Medical Terminology II, Introduction to the Healthcare Field, Pathophysiology, ICD Coding II, CPT-4, Clinical Skills, Electrocardiography, Medical Administrative Skills I and Laboratory Procedures I. Taken concurrently with Medical Insurance Forms, Laboratory Procedures II, Medical Legal Aspects, and First Aid & CPR-AHA.

MA306 MEDICAL SEMINAR (2.5 credits/36 clock hours) This course is designed to implement knowledge and skills learned throughout the program. The emphasis is to assist the transition of student to employee. Role play/simulations of day-to-day medical office encounters are incorporated. Prerequisites: Anatomy & Physiology II and Lab II, Medical Terminology II, Introduction to the Healthcare Field, Pathophysiology, ICD Coding II, CPT-4, Clinical Skills, Electrocardiography, Medical Administrative Skills I and Laboratory Procedures I. Taken concurrently with Medical Insurance Forms, Laboratory Procedures II, Medical Legal Aspects, and First Aid & CPR-AHA.

MD108 MEDICAL TERMINOLOGY I (3.0 credits/36 clock hours) Presentation of medical terms, including medical prefixes, root words/combining forms, suffixes, abbreviations and diagnostic tests as they correlate with specific body systems presented in Anatomy & Physiology I. Prerequisite: Taken concurrently with Anatomy & Physiology I.

MD109 MEDICAL TERMINOLOGY II (3.0 credits/36 clock hours) Presentation of medical terms, including medical prefixes, root words/combining forms, suffixes, abbreviations and diagnostic tests as they correlate with specific body systems. Prerequisite: Medical Terminology I.

CP272 MICROSOFT ACCESS (3.0 credits/60 clock hours) This course will cover beginning and intermediate database topics. The student will learn what a database is and how it is used in business. The student will also learn how to design and build a database, tables, reports, queries and forms. Prerequisite: None.

CP286 MICROSOFT ACCESS (4.5 credits/60 clock hours) This course will cover beginning and intermediate database topics. The student will learn what a database is and how it is used in business. The student will also learn how to design and build a database, tables, reports, queries and forms. Prerequisite: None.

CP270 MICROSOFT EXCEL (3.0 credits/60 clock hours) This course uses a problem-solving approach to teach spreadsheet functions. The student will be introduced to beginning and intermediate level spreadsheet functions that will be used for creating, manipulating, and enhancing a worksheet; for creating graphics based on the worksheet; for enhancing a worksheet; and for integrating worksheets and graphics. Prerequisite: None.

CP287 MICROSOFT EXCEL (4.5 credits/60 clock hours) This course uses a problem-solving approach to teach spreadsheet functions. The student will be introduced to beginning and intermediate level spreadsheet functions that will be used for creating, manipulating, and enhancing a worksheet; for creating graphics based on the worksheet; for enhancing a worksheet; and for integrating worksheets and graphics. Prerequisite: None.

CP212 MICROSOFT OFFICE (3.0 credits/60 clock hours) The current version of MS Office is an integrated suite of applications providing word processing, spreadsheet capabilities, presentation graphics, and database management. This course will acquaint the student with a broad range of tools and techniques for each application, as well as an understanding of how information is shared between applications. Prerequisite: None.

CP283 MICROSOFT OFFICE (4.0 credits/60 clock hours) The current version of MS Office is an integrated suite of applications providing word processing, spreadsheet capabilities, presentation graphics, and database management. This course will acquaint the student with a broad range of tools and techniques for each application, as well as an understanding of how information is shared between applications. Prerequisite: None.

CP297 MICROSOFT SERVER OPERATING SYSTEMS (4.5 credits/60 clock hours) This course in server operating systems will cover topics essential to the installation, configuration, and administration of a current Microsoft Windows server operating system. Prerequisite: Networking Essentials.

CP284 MICROSOFT WORD (4.5 credits/60 clock hours) This course is designed to provide students with the basic understanding of word processing applications, concepts, and terminology. The purpose of the course is to develop an ability to use the current version of Microsoft Word for both professional and personal use. Prerequisite: Keyboarding.

CP322 MODERN APIs (3.0 credits/60 clock hours) In this course students will learn to program using popular APIs. The students will learn common APIs used today to interact with and enhance web pages and applications. Students will use one or more APIs to create a final project for the course. Prerequisites: PHP and JavaScript.

CP290 .NET FRAMEWORK (4.5 credits/60 clock hours) This course expands upon the objectives learned in the C# Programming course and covers basics of ASP.NET, C#, and SQL Server along with advanced topics in object-oriented programming. The students will build database-driven applications that incorporate authentication and security. Prerequisite: C# Programming.

CP298 NETWORKING ESSENTIALS (4.5 credits/60 clock hours) This course in Networking Essentials will familiarize students with networking concepts, terminology, theory, design, and implementation. Topics will include network topologies, components, purposes, and administration. Prerequisite: None.

CP324 OBJECTIVE-C PROGRAMMING (3.0 credits/60 clock hours) This course will introduce students to the Objective-C programming language. Objective-C is the language underlying iOS. Students will learn the fundamentals of Objective-C, creating applications of various complexities. Prerequisite: Introduction to Programming & Logic.

DM304 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II (5.0 credits/60 clock hours) This course continues to build upon obstetrical and gynecological knowledge information discussed in Obstetrical I and Gynecologic Ultrasound. Emphasis is on the sonographic description and recognition of multiple pathologic processes in the female pelvis and fetus. Multiple fetal syndromes, genetic malformations and anomalies will be introduced, e.g. Triploidy, Turner Syndrome, VACTERL Sequence, etc. Development and performance of ultrasound exams, (e.g., Biophysical Profiles, Second Trimester Anatomical Survey, and Amniotic Fluid Index) utilized to evaluate for these abnormalities will be continued. Doppler and Color Doppler applications in obstetrics and gynecology will be presented. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS264 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II (3.0 credits/60 clock hours) This course continues to build upon obstetrical and gynecological knowledge information discussed in Obstetrical I and Gynecologic Ultrasound. Emphasis is on the sonographic description and recognition of multiple pathologic processes in the female pelvis and fetus. Multiple fetal syndromes, genetic malformations and anomalies will be

introduced, e.g. Triploidy, Turner Syndrome, VACTERL Sequence, etc. Development and performance of ultrasound exams, (e.g., Biophysical Profiles, Second Trimester Anatomical Survey, and Amniotic Fluid Index) utilized to evaluate for these abnormalities will be continued. Doppler and Color Doppler applications in obstetrics and gynecology will be presented. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS316 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II (3.0 credits/36 clock hours) This course continues to build upon obstetrical and gynecological knowledge information discussed in Obstetrical I and Gynecologic Ultrasound I. Emphasis is on the sonographic description and recognition of multiple pathologic processes in the female pelvis and fetus. Multiple fetal syndromes, genetic malformations and anomalies will be introduced, e.g. Triploidy, Turner Syndrome, VACTERL Sequence, etc. Development and performance of ultrasound exams, (e.g., Biophysical Profiles, Second Trimester Anatomical Survey, and Amniotic Fluid Index) utilized to evaluate for these abnormalities will be continued. Doppler and Color Doppler applications in obstetrics and gynecology will be presented. This course is taught concurrently with Obstetric and Gynecologic Ultrasound II Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS317 OBSTETRIC AND GYNECOLOGIC ULTRASOUND II LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Emphasis on the techniques used in scanning the pelvis of all ages. Spectral Doppler and color Doppler applications in obstetrics and gynecology will be demonstrated and practiced. This course is taught concurrently with Obstetric and Gynecologic Ultrasound II. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM201 OBSTETRIC ULTRASOUND (5.0 credits/60 clock hours) Obstetric ultrasound presents an in-depth study of ultrasound evaluation of the pregnant uterus in the first, second, and third trimesters. Begins with ultrasound diagnosis of pregnancy in the first trimester and the specific structures appreciated sonographically, then moves into fetal anatomy of the second trimester and required represented images. Third trimester evaluation including biophysical profile is discussed. Assessment of the placenta, cervix, amniotic fluid and umbilical cord is also presented. Infertility issues and various causes are also covered. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS218 OBSTETRIC ULTRASOUND (3.0 credits/60 clock hours) Obstetric ultrasound presents an in-depth study of ultrasound evaluation of the pregnant uterus in the first, second, and third trimesters. Begins with ultrasound diagnosis of pregnancy in the first trimester and the specific structures appreciated sonographically, then moves into fetal anatomy of the second trimester and required represented images. Third trimester evaluation including biophysical profile is discussed. Assessment of the placenta, cervix, amniotic fluid and umbilical cord is also presented. Infertility issues and various causes are also covered. This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS290 OBSTETRIC ULTRASOUND (3.0 credits/36 clock hours) Obstetric ultrasound presents an in-depth study of ultrasound evaluation of the pregnant uterus in the first, second, and third trimesters. Begins with ultrasound diagnosis of pregnancy in the first trimester and the specific structures appreciated sonographically, then moves onto fetal anatomy of the second trimester and required represented images. Third trimester evaluation including biophysical profile is discussed. Assessment of the placenta, cervix, amniotic fluid and umbilical cord is also presented. Infertility issues and various causes are also covered. This course is taught concurrently with Obstetric Ultrasound Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS291 OBSTETRIC ULTRASOUND LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Assessment of the anatomy and physiology of the uterus, ovaries and female pelvic structures will be taught as well as fetal anatomy, placenta, amniotic fluid, cervix and umbilical cord. This course is taught concurrently with Obstetric Ultrasound. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

CP273 OFFICE COMPUTER NETWORKING (3.5 credits/60 clock hours) This course covers material pertaining to microcomputer systems and networks. The emphasis is on how computers are networked together and how to design, use and troubleshoot networks. Prerequisite: None.

CP288 OFFICE COMPUTER NETWORKING (5.0 credits/60 clock hours) This course covers material pertaining to microcomputer systems and networks. The emphasis is on how computers are networked together and how to design, use and troubleshoot networks. Prerequisite: None.

OS102 ONLINE BUSINESS COMMUNICATION (2.0 credits/36 clock hours) Through readings, case studies, and lecture students will be introduced to the key concepts of online business communications. The major topics will include: E-mail, Event Communications, Data Storage and Cloud computing in communication, Social Media, and Ethics and Policy making. Prerequisite: None.

OS105 ONLINE BUSINESS COMMUNICATION (3.0 credits/36 clock hours) Through readings, case studies, and lecture students will be introduced to the key concepts of online business communications. The major topics will include: E-mail, Event Communications, Data Storage and Cloud computing in communication, Social Media, and Ethics and Policy making. Prerequisite: None.

GE213 ORAL BUSINESS COMMUNICATIONS (2.0 credit/24 clock hours) This applied communications course teaches the fundamentals of oral business communication with emphasis on improving speaking and listening skills in the workplace. This course will help students create informational speeches and familiarize students with formal speech preparation, business presentation skills, and effective nonverbal communication. Prerequisite: None.

GE250 ORAL BUSINESS COMMUNICATIONS (1.0 credit/24 clock hours) This applied communications course teaches the fundamentals of oral business communication with emphasis on improving speaking and listening skills in the workplace. This course will help students create informational speeches and familiarize students with formal speech preparation, business presentation skills, and effective nonverbal communication. Prerequisite: None.

GE251 ORAL PRESENTATION SKILLS (1.5 credits/36 clock hours) Oral Presentation Skills will introduce students to fundamentals in workplace communication with an emphasis on improving speaking and listening skills in a business environment. The course focuses on planning informative and persuasive messages, presenting business plans effectively, and speaking with confidence and poise. Prerequisite: Taken concurrently with the Business Plan.

PD200 ORAL PRESENTATION SKILLS (2.5 credits/36 clock hours) Oral Presentation Skills will introduce students to fundamentals in workplace communication with an emphasis on improving speaking and listening skills in a business environment. The course focuses on planning informative and persuasive messages, presenting business plans effectively, and speaking with confidence and poise. Prerequisite: Taken concurrently with the Business Plan.

GA210 PACKAGING DESIGN (2.5 credits/60 clock hours) This course deals with package design for a variety of products, from mass-market to luxury. Students work with concept, surface design, materials, and the physical construction of three-dimensional forms, as well as exploring how packaging fits in to an overall branding and marketing experience. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign), Typography, Computer Graphics – Illustrator, and Geometry for Design.

GA220 PACKAGING DESIGN (3.5 credits/60 clock hours) This course deals with package design for a variety of products, from mass-market to luxury. Students work with concept, surface design, materials, and the physical construction of three-dimensional forms, as well as exploring how packaging fits in to an overall branding and marketing experience. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign), Typography, Computer Graphics – Illustrator, and Geometry for Design.

HI102 PATHOPHYSIOLOGY (5.5 credits/60 clock hours) This course is a study of abnormal anatomy and physiology associated with prominent clinical disease processes. Emphasis is placed on the nature, cause, diagnosis, treatment, and management of these conditions. Topics include diagnostic methods, interpretation of laboratory tests, and drug therapies. Prerequisites: Anatomy & Physiology II and Medical Terminology II.

DS292 PATIENT CARE (3.0 credits/36 clock hours) Presentation of simple to advanced patient care techniques such as moving patients, taking a history, managing patients with IV's, proper aseptic techniques, and infection control procedures. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

AC121 PAYROLL ACCOUNTING (4.5 credits/60 clock hours) Payroll accounting introduces the student to the history of employment laws in the United States, the requirements for maintaining employees' payroll records, the computations necessary to determine proper wages and appropriate tax withholdings, the procedures for remitting the taxes, and the employer's responsibilities for reporting payroll information to the various governmental agencies. Current federal and Pennsylvania requirements will be discussed. In addition, the student will be exposed to an overview of the process necessary to record payroll transactions in a manual and computerized payroll system. Prerequisites: Introduction to Accounting or Accounting I and Business Mathematics or Intro to Applied Algebra (concurrently).

CP321 PERL AND PYTHON (3.0 credits/60 clock hours) In this course students will learn the programming fundamentals of both Perl and Python. Students will learn write scripts in both languages and execute them on both Windows and Linux operating systems. Prerequisites: UNIX/Linux Essentials and Introduction to Programming & Logic.

CP332 PERL AND PYTHON (4.5 credits/60 clock hours) In this course students will learn the programming fundamentals of both Perl and Python. Students will learn write scripts in both languages and execute them on both Windows and Linux operating systems. Prerequisites: UNIX/Linux Essentials and Introduction to Programming & Logic.

MG212 PERSONAL FINANCIAL MANAGEMENT (1.5 credits/36 clock hours) Upon completion of this course, the student will be able to: set realistic financial goals; understand how, when and where a recordkeeping system should be developed; develop a budget; understand debt and debt reduction; and understand Social Security benefits. Additionally, the following topics will be covered: savings and investment, the home as an investment, funding college education, purchasing an automobile, insurance, retirement, and wills. Prerequisite: None.

MG215 PERSONAL FINANCIAL MANAGEMENT (2.5 credits/36 clock hours) Upon completion of this course, the student will be able to: set realistic financial goals; understand how, when and where a recordkeeping system should be developed; develop a budget; understand debt and debt reduction; and understand Social Security benefits. Additionally, the following topics will be covered: savings and investment, the home as an investment, funding college education, purchasing an automobile, insurance, retirement, and wills. Prerequisite: None.

MD200 PHARMACOLOGY (2.0 credits/36 clock hours) This course is an introduction to basic pharmacological concepts as it applies to the allied health fields. Various drugs will be presented according to their therapeutic applications. Pertinent physiology and related diseases will be reviewed. Emphasis is placed on current drug therapy. Each drug classification will be discussed in regard to its mechanism of action, main therapeutic effects and adverse reactions produced by the drugs. Prerequisite: None.

MD242 PHARMACOLOGY (3.0 credits/36 clock hours) This course is an introduction to basic pharmacological concepts as it applies to the allied health fields. Various drugs will be presented according to their therapeutic applications. Pertinent physiology and related diseases will be reviewed. Emphasis is placed on current drug therapy. Each drug classification will be discussed in regard to its mechanism of action, main therapeutic effects and adverse reactions produced by the drugs. Prerequisite: None.

CP253 PHP (3.5 credits/60 clock hours) This course in web programming will introduce students to concepts of server-side scripting using PHP. Prerequisites: Web Site Design and Introduction to Programming & Logic.

CP299 PHP (4.5 credits/60 clock hours) This course in web programming will introduce students to concepts of server-side scripting using PHP. Prerequisites: Web Site Design and Introduction to Programming & Logic.

MD211 PRACTICE MANAGEMENT & EHR (3.5 credits/60 clock hours) This course provides instruction in fundamentals of the operation and maintenance of an electronic medical office health record system. This instruction will include use of computerized software for medical office. Prerequisite: Microsoft Word or Microsoft Office.

MD239 PRACTICE MANAGEMENT & EHR (2.0 credits/60 clock hours) This course provides instruction in fundamentals of the operation and maintenance of an electronic medical office health record system. This instruction will include use of computerized software for medical office. Prerequisite: Microsoft Word or Microsoft Office.

DS211 PRINCIPLES OF CARDIOVASCULAR TECHNOLOGY (2.5 credits/36 clock hours) Introduction to the cardiovascular system and potential disease processes will be covered including atherosclerosis, electrical abnormalities and structural abnormalities. Presentation of a broad

spectrum of invasive and noninvasive diagnostic procedures used to assess the cardiovascular system will be discussed including the appropriate application of sonographic techniques. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS293 PRINCIPLES OF CARDIOVASCULAR TECHNOLOGY (3.5 credits/36 clock hours) Introduction to the cardiovascular system and potential disease processes will be covered including atherosclerosis, electrical abnormalities and structural abnormalities. Presentation of a broad spectrum of invasive and noninvasive diagnostic procedures used to assess the cardiovascular system will be discussed including the appropriate application of sonographic techniques. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM100 PRINCIPLES OF SONOGRAPHY (4.0 credits/48 clock hours) This course is an introduction to the field of sonography. Topics covered include ultrasound nomenclature, scan plane orientation, responsibilities of the sonographer, certification/licensure standards for the profession, and lab accreditation The various ultrasound subspecialties, opportunities within sonography and current issues facing sonographers in the workplace will be described. An introduction to proper ergonomics for sonographers will be presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS102 PRINCIPLES OF SONOGRAPHY (2.5 credits/48 clock hours) This course is an introduction to the field of sonography. Topics covered include ultrasound nomenclature, scan plane orientation, responsibilities of the sonographer, certification/licensure standards for the profession, and lab accreditation The various ultrasound subspecialties, opportunities within sonography and current issues facing sonographers in the workplace will be described. An introduction to proper ergonomics for sonographers will be presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS104 PRINCIPLES OF SONOGRAPHY (3.0 credits/36 clock hours) This course is an introduction to the field of sonography. Topics covered include ultrasound nomenclature, scan plane orientation, responsibilities of the sonographer, certification/licensure standards for the profession, and lab accreditation. The various ultrasound subspecialties, opportunities within sonography, and current issues facing sonographers in the workplace will be described. An introduction to proper ergonomics for sonographers will be presented. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

HI200 PRINCIPLES OF SUPERVISION (2.0 credits/36 clock hours) This course covers a variety of topics that impact the supervisor in the work force. The areas presented include the role of the supervisor in the work place, employee expectations, goal setting, planning, problem identification and resolution, organizations and organization charts, staffing, training new employees, theories of motivation, leadership styles, effective communication, performance appraisals, counseling problem employees, legislation impacting the work place, employee safety standards and labor unions. Prerequisite: None.

HI234 PRINCIPLES OF SUPERVISION (3.0 credits/36 clock hours) This course covers a variety of topics that impact the supervisor in the work force. The areas presented include the role of the supervisor in the work place, employee expectations, goal setting, planning, problem identification and resolution, organizations and organization charts, staffing, training new employees, theories of motivation, leadership styles, effective communication, performance appraisals, counseling problem employees, legislation impacting the work place, employee safety standards and labor unions. Prerequisite: None.

DM302 PRINCIPLES OF VASCULAR SONOGRAPHY (6.0 credits/72 clock hours) This course is an introduction to the various applications of ultrasound to the diagnosis and treatment of vascular disorders, including cerebrovascular, peripheral arterial, and peripheral venous applications. It covers anatomy and physiology of the veins and arteries, and includes pathogenesis of atherosclerosis, cerebral ischemia, and deep vein thrombosis. It includes hemodynamics of atherosclerotic lesions, and reduction of catheter induced pseudoaneurysms. This course includes a required hands-on lab with required competency assessments. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DS235 PRINCIPLES OF VASCULAR SONOGRAPHY (4.0 credits/72 clock hours) This course is an introduction to the various applications of ultrasound to the diagnosis and treatment of vascular disorders, including cerebrovascular, peripheral arterial, and peripheral venous applications. It covers anatomy and physiology of the veins and arteries, and includes pathogenesis of atherosclerosis, cerebral ischemia, and deep vein thrombosis. It includes hemodynamics of atherosclerotic lesions, and reduction of catheter induced pseudoaneurysms. This course includes a required hands-on lab with required competency assessments. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DS318 PRINCIPLES OF VASCULAR SONOGRAPHY (3.0 credits/36 clock hours) This course is an introduction to the various applications of ultrasound to the diagnosis and treatment of vascular disorders, including cerebrovascular, peripheral arterial and peripheral venous applications. It covers anatomy and physiology of the veins and arteries, and includes pathogenesis of atherosclerosis, cerebral ischemia, and deep vein thrombosis. Includes hemodynamics of atherosclerotic lesions, and reduction of catheter induced pseudoaneurysms. This course is taught concurrently with Principles of Vascular Sonography Lab. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

DS319 PRINCIPLES OF VASCULAR SONOGRAPHY LAB (3.0 credits/36 hours) This course is an integrated, hands-on scanning course with required competency assessments. Students will learn in detail the proper technique of imaging arteries and veins, including transducer selection, patient positioning, and scan techniques. This course is taught concurrently with Principles of Vascular Sonography. Prerequisite: Must be enrolled in the DMS, DPP, or DMP programs.

GA212 PRINT PORTFOLIO (2.5 Credits/60 clock hours) The course focuses on the development of the student's print and digital portfolio in preparation for entering the graphic design profession. Several projects will encourage students to develop conceptual skills, to execute comprehensive projects, and to prepare for professional presentations. Students will design an identity portfolio campaign incorporating a resumé, and supporting body of work. At the end of the term, the students will have a physical print portfolio along with creating a personal online digital portfolio-based website. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign), Typography, Introduction to Computer Graphics (Photoshop), Computer Graphics – Illustrator, Typography as Design, Graphic Design Studio I, Concept Development, Advertising Design, Publication Design, Web Site Design and Web Site Design II.

GA221 PRINT PORTFOLIO (3.5 credits/60 clock hours) The course focuses on the development of the student's print and digital portfolio in preparation for entering the graphic design profession. Several projects will encourage students to develop conceptual skills, to execute comprehensive projects, and to prepare for professional presentations. Students will design an identity portfolio campaign incorporating a resumé, and supporting body of work. At the end of the term, the students will have a physical print portfolio along with creating a personal online digital portfolio-based website. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign), Typography, Introduction to Computer

Graphics (Photoshop), Computer Graphics – Illustrator, Typography as Design, Graphic Design Studio I, Concept Development, Advertising Design, Publication Design, Web Site Design and Web Site Design II.

PD110 PROFESSIONAL DEVELOPMENT (2.0 credit/24 clock hours) Professional Development is designed to explore the fundamental building blocks to a student's success in school and ultimate success in the workplace. Topics include time, money, and stress management, professionalism, and teamwork. Prerequisite: None.

DS225 PROFESSIONAL DEVELOPMENT I (2.0 credit/30 clock hours) This course focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS226 PROFESSIONAL DEVELOPMENT II (2.0 credits/30 clock hours) This course is a continuation of Professional Development I and focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS214 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER I (1.5 credits/21 clock hours) This course focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS320 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER I (2.0 credits/21 clock hours) This course focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS216 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER II (1.5 credits/21 clock hours) This course is a continuation of Professional Development for the Sonographer I and focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS321 PROFESSIONAL DEVELOPMENT FOR THE SONOGRAPHER II (2.0 credits/21 clock hours) This course is a continuation of Professional Development for the Sonographer I and focuses on continued expansion of the student's sonographic knowledge and understanding of anatomy and pathology. Multiple case studies will be researched and presented throughout the term in which the intern was directly involved. Selected cases are chosen by the faculty for student presentation. Additional requirements may include on-site research, journal reviews, registry test preparation, and job search skill development. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

HI604 PROFESSIONAL PRACTICE EXPERIENCE (9.0 credits/378 clock hours) This course provides students with clinical experience to enhance their skills and knowledge in the health information field. The student will be placed in a health care setting such as a hospital, physician office, nursing home, prison setting, specialty healthcare facility, etc. Areas include the organization of the healthcare facility, record content, release of information, accreditation and licensing standards, coding and reimbursement systems, billing, statistics, EHR applications, quality management, utilization review, risk management, and other aspects pertinent to the setting. Prerequisites: Health Records in Other Settings, Medical Legal Aspects, Advanced Coding and Electronic Health Records.

HI606 PROFESSIONAL PRACTICE EXPERIENCE (11.0 credits/330 clock hours) This course provides students with clinical experience to enhance their skills and knowledge in the health information field. The student will be placed in a health care setting such as a hospital, physician office, nursing home, prison setting, specialty healthcare facility, etc. Areas include the organization of the healthcare facility, record content, release of information, accreditation and licensing standards, coding and reimbursement systems, billing, statistics, EHR applications, quality management, utilization review, risk management, and other aspects pertinent to the setting. Prerequisites: Health Records in Other Settings, Medical Legal Aspects, Advanced Coding and Electronic Health Records.

CP265 PROJECT MANAGEMENT (3.5 credits/60 clock hours) This course is designed to provide up-to-date information on how good project management and effective use of software can help manage information technology projects. Students will study project management knowledge areas such as: project integration, scope, time, cost, quality, human resources, communications, risk, procurement management and stakeholder management, and process groups such as: initiating, planning, executing, monitoring and controlling, and closing to information technology projects. Prerequisite: This course must be taken in the term prior to the IT Capstone Project class.

CP277 PROJECT MANAGEMENT (5.0 credits/60 clock hours) This course is designed to provide up-to-date information on how good project management and effective use of software can help manage information technology projects. Students will study project management knowledge areas such as: project integration, scope, time, cost, quality, human resources, communications, risk, procurement management and stakeholder management, and process groups such as: initiating, planning, executing, monitoring and controlling, and closing to information technology projects. Prerequisite: This course must be taken in the term prior to the IT Capstone Project class.

GE203 PSYCHOLOGICAL FOUNDATIONS OF CRIMINAL JUSTICE (2.0 credits/36 clock hours) This course is designed to explore and apply psychological principles and practice to the varied criminal justice functions in present-day society. Some of the specific topics that will be discussed and critically examined are: group formation and types of members; psychology of abuse and ethics; the unique psychological stresses of criminal justice work; critical incident stress management; conflict management and de-escalation; hostage situations; psychological stresses of command;

psychology of crowds; riots and their effective control; the application of psychological principles in witnesses and juries; and the psychology of competence and insanity. Prerequisite: None.

GA209 PUBLICATION DESIGN (2.5 credits/60 clock hours) Using skills learned from previous classes, students will apply learned principles of publication design to produce a series of related projects. Students will be asked to solve complex design problems when working with lengthy manuscripts, multiple-page documents, large-scale formats, periodicals and/or books. In addition, they will create and integrate functional and typographical solutions that are sophisticated and visually distinctive. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign), Typography, Computer Graphics – Illustrator.

GA222 PUBLICATION DESIGN (3.5 credits/60 clock hours) Using skills learned from previous classes, students will apply learned principles of publication design to produce a series of related projects. Students will be asked to solve complex design problems when working with lengthy manuscripts, multiple-page documents, large-scale formats, periodicals and/or books. In addition, they will create and integrate functional and typographical solutions that are sophisticated and visually distinctive. Prerequisites: Electronic Design I (Quark) or Electronic Design II (InDesign), Typography, Computer Graphics – Illustrator.

MG207 REAL ESTATE FUNDAMENTALS (2.0 credits/36 clock hours) Real Estate Fundamentals is designed to familiarize students with the laws, terminology, and principles governing real estate. The definitions of land, real property and real estate are the basis from which the course is built. The concept of title as well as the transfer of property and rights therein will be discussed. An introduction to real estate financing, including mortgage law, documentation, foreclosure and the primary and secondary markets will be discussed. Prerequisite: None.

MG216 REAL ESTATE FUNDAMENTALS (3.0 credits/36 clock hours) Real Estate Fundamentals is designed to familiarize students with the laws, terminology, and principles governing real estate. The definitions of land, real property and real estate are the basis from which the course is built. The concept of title as well as the transfer of property and rights therein will be discussed. An introduction to real estate financing, including mortgage law, documentation, foreclosure and the primary and secondary markets will be discussed. Prerequisite: None.

MG210 REAL ESTATE PRACTICE (3.0 credits/60 clock hours) Where Real Estate Fundamentals was a theoretical course focusing on the ownership rights and legalities of real property, Real Estate Practice emphasizes the practicalities of the real estate business. Subjects that will be covered in detail are the following: specialization within the real estate business, including brokerage and sales, property management, investment and appraisal, real estate finance, and closing of the real estate transaction. Title records, fair housing laws, and the Pennsylvania Real Estate Licensing and Registration Act will be examined. Prerequisite: Real Estate Fundamentals.

MG217 REAL ESTATE PRACTICE (4.5 credits/60 clock hours) Where Real Estate Fundamentals was a theoretical course focusing on the ownership rights and legalities of real property, Real Estate Practice emphasizes the practicalities of the real estate business. Subjects that will be covered in detail are the following: specialization within the real estate business, including brokerage and sales, property management, investment and appraisal, real estate finance, and closing of the real estate transaction. Title records, fair housing laws, and the Pennsylvania Real Estate Licensing and Registration Act will be examined. Prerequisite: Real Estate Fundamentals.

AP109 RECORDS MANAGEMENT (2.0 credits/30 clock hours) This course teaches the fundamentals of filing through a series of instructions, exercises, and quizzes. Using a practice file kit, the student will apply correct procedures to file and request records. Records retention, transfer, and disposition will be discussed. Alphabetic, numeric, correspondence, and subject systems will be used in accordance with popular ARMA rules. Prerequisite: None.

CJ127 REHABILITATION OF THE OFFENDER (3.0 credits/36 clock hours) Through examination of literature, this course will explore correctional programs designed to rehabilitate offenders. The study of both institutional treatment models and community-based models will include: family intervention, counseling, self-help programs, diversion, house arrest, community service, probation and halfway houses and others. Prerequisite: None.

MK104 RETAILING (3.0 credits/60 clock hours) This course examines the different aspects of working in a retail store. Duties such as merchandising inventory control, pricing, buying, store operations, display, and store management will be stressed. Field trips and retailing-oriented speakers will be used to give the student a true picture of the world of retailing. Prerequisite: None.

MK108 RETAILING (4.5 credits/60 clock hours) This course examines the different aspects of working in a retail store. Duties such as merchandising inventory control, pricing, buying, store operations, display, and store management will be stressed. Field trips and retailing-oriented speakers will be used to give the student a true picture of the world of retailing. Prerequisite: None.

CP319 SAN ADMINISTRATION AND DISASTER RECOVERY (3.0 credits/60 clock hours) In this course students will setup a NAS device using various RAID technologies and then move to designing and building a SAN. The students will focus on replication of data, backups and plan disaster recovery. Prerequisites: Networking Essentials, Hardware, and TCP/IP.

CP333 SAN ADMINISTRATION AND DISASTER RECOVERY (4.5 credits/60 clock hours) In this course students will setup a NAS device using various RAID technologies and then move to designing and building a SAN. The students will focus on replication of data, backups and plan disaster recovery. Prerequisites: Networking Essentials, Hardware, and TCP/IP.

MK109 SELLING (3.5 credits/48 clock hours) Principles of personal selling and selling techniques will be presented. Attention will be focused on the fact that personal selling is a key element of a firm's promotional strategy. Particular emphasis will be placed on building person-to-person relationships; how and why customers buy; and the role of salespeople as advisors, consultants, and partners to the buyer. Traditional topics such as prospecting, the sales presentation, negotiating resistance, and closing a sale will also be examined. Prerequisite: None.

MK192 SELLING (2.0 credits/48 clock hours) Principles of personal selling and selling techniques will be presented. Attention will be focused on the fact that personal selling is a key element of a firm's promotional strategy. Particular emphasis will be placed on building person-to-person relationships; how and why customers buy; and the role of salespeople as advisors, consultants, and partners to the buyer. Traditional topics such as prospecting, the sales presentation, negotiating resistance, and closing a sale will also be examined. Prerequisite: None.

CP278 SERVER ADMINISTRATION (3.0 credits/60 clock hours) This course prepares the student to administer networks using server operating systems. It will focus on updates to the software and in-depth coverage of the administration aspects of server operating systems. This course includes topics such as installing, configuring, managing and troubleshooting. Prerequisite: Networking Essentials.

CP339 SERVER ADMINISTRATION (4.5 credits/60 clock hours) This course prepares the student to administer networks using server operating systems. It will focus on updates to the software and in-depth coverage of the administration aspects of server operating systems. This course includes topics such as installing, configuring, managing and troubleshooting. Prerequisite: Networking Essentials.

MG218 SMALL BUSINESS MANAGEMENT (4.0 credits/48 clock hours) This course will feature a real project detailing the fundamental principles of starting and maintaining a real small business. Retail, manufacturing and service businesses will be examined. Emphasis will be placed on financing and managing business operations, developing and executing a marketing strategy, understanding business risks, and organizational structure and legalities. The course is project oriented. Prerequisite: None.

MG224 SMALL BUSINESS MANAGEMENT (2.5 credits/48 clock hours) This course will feature a real project detailing the fundamental principles of starting and maintaining a real small business. Retail, manufacturing and service businesses will be examined. Emphasis will be placed on financing and managing business operations, developing and executing a marketing strategy, understanding business risks, and organizational structure and legalities. The course is project oriented. Prerequisite: None.

MK106 SOCIAL MEDIA FOR BUSINESS (2.5 credits/36 clock hours) Introduction to e-business functions using the Internet. Topics include search engine marketing (SEM), search engine optimization (SEO), e-business, social networking, blogging, discussion groups, e-mail, the different functions and applications of the Internet, and how interactive technologies have changed business and consumer practices. Emphasis on the effect of the use of interactive technology on a company's existing marketing mix and current and potential uses of the Internet for marketing tactics and strategies. Prerequisite: None.

CJ128 SOCIOLOGY FOR CRIMINAL JUSTICE (4.0 credits/48 clock hours) In this survey course, students are encouraged to think about society critically, by examining such topics as culture, socialization, social interaction, and social change. Included is the study of sociological perspectives, sociological imagination, and sociological research. The course specifically focuses on the sociology of deviant behavior so the students can apply the general theories to their work with criminal justice issues. Particular focus is on the effect of culture, groups, socialization, economics, gender, income disparity, roles and statuses and race on crime. The religious section expands to an understanding of the denominational makeup and religious conflict on prison systems. Government and social movement sections highlight protests, crowd control, riots and cults as criminal justice issues. Prerequisite: None.

CP271 SOFTWARE TRAINER ESSENTIALS (3.0 credits/60 clock hours) Students will have the opportunity to install and explore a wide variety of commercial software packages in this course. The emphasis will be on independent learning, so that the students will develop the skills necessary to install, evaluate, and use software packages that they will encounter in the future. In addition, students will be required to make an oral marketing presentation on one package, and to develop and conduct a training workshop to train several other students, using that same or another software package. Prerequisite: None.

CP289 SOFTWARE TRAINER ESSENTIALS (4.5 credits/60 clock hours) Students will have the opportunity to install and explore a wide variety of commercial software packages in this course. The emphasis will be on independent learning, so that the students will develop the skills necessary to install, evaluate, and use software packages that they will encounter in the future. In addition, students will be required to make an oral marketing presentation on one package, and to develop and conduct a training workshop to train several other students, using that same or another software package. Prerequisite: None.

IM244 SOLID MODELING CAD (5.0 credits/72 clock hours) An introductory course of 3D solid parametric modeling using Autodesk Inventor. This course will present methods to create part models and assemblies, and create multi-view drawings based on those models and assemblies. The course materials will be reinforced through hands-on examples and projects. Prerequisite: Mechanical CAD.

IM246 SOLID MODELING CAD (3.5 credits/72 clock hours) An introductory course of 3D solid parametric modeling using Autodesk Inventor. This course will present methods to create part models and assemblies, and create multi-view drawings based on those models and assemblies. The course materials will be reinforced through hands-on examples and projects. Prerequisite: Mechanical CAD.

CJ302 SPECIALIZED CERTIFICATIONS FOR CJ (1.5 credits/36 clock hours) This course will instruct students in the areas of proper handcuffing, pepper spray and CPR techniques. Students will be taught the material through lecture and demonstrations. Then they will have to perform the techniques. At the conclusion of this course, students will be able to test and receive the following certifications: OCAT (Oleoresin Capsicum Aerosol Training), PATH (Practical and Tactical Handcuffing), and CPR (Cardiopulmonary Resuscitation). Prerequisite: None.

CJ306 SPECIALIZED CERTIFICATIONS FOR CJ (2.5 credits/36 clock hours) This course will instruct students in the areas of proper handcuffing, pepper spray and CPR techniques. Students will be taught the material through lecture and demonstrations. Then they will have to perform the techniques. At the conclusion of this course, students will be able to test and receive the following certifications: OCAT (Oleoresin Capsicum Aerosol Training), PATH (Practical and Tactical Handcuffing), and CPR (Cardiopulmonary Resuscitation). Prerequisite: None.

GE246 STATISTICAL METHODS AND APPLICATIONS (3.0 credits/60 clock hours) This course is designed to give the student a basic knowledge of the statistics used in today's business world. Although most students do not plan to become statisticians, a working knowledge of descriptive and inferential statistics is required for most entry-level positions. The following areas will be covered: collection of data, introduction to sampling concepts, deceptive statistics, frequency distributions, graphing, cross tabulations, measures of central tendency, measures of dispersion, introduction to probability, binomial distribution, normal distribution, hypothesis testing with one sample and related areas. Prerequisite: Applied Algebra.

GE258 STATISTICAL METHODS AND APPLICATIONS (4.0 credits/60 clock hours) This course is designed to give the student a basic knowledge of the statistics used in today's business world. Although most students do not plan to become statisticians, a working knowledge of descriptive and inferential statistics is required for most entry-level positions. The following areas will be covered: collection of data, introduction to sampling concepts, deceptive statistics, frequency distributions, graphing, cross tabulations, measures of central tendency, measures of dispersion,

introduction to probability, binomial distribution, normal distribution, hypothesis testing with one sample and related areas. Prerequisite: Applied Algebra.

MG213 SUPPLY CHAIN MANAGEMENT (1.5 credits/36 clock hours) Through readings, case studies, and lectures, the student will become familiar with various aspects of Supply Chain Management and Purchasing processes. Topics will include Supply Chain activities and functions, Supplier evaluation and selection, Supply quality management, Supplier performance measurement, Supplier development, Supply Chain analysis, Negotiation, Contract Management, and Purchasing Services. Prerequisite: None.

MG219 SUPPLY CHAIN MANAGEMENT (2.5 credits/36 clock hours) Through readings, case studies, and lectures, the student will become familiar with various aspects of Supply Chain Management and Purchasing processes. Topics will include Supply Chain activities and functions, Supplier evaluation and selection, Supply quality management, Supplier performance measurement, Supplier development, Supply Chain analysis, Negotiation, Contract Management, and Purchasing Services. Prerequisite: None.

CP334 TCP/IP (4.5 credits/60 clock hours) This course in TCP/IP will cover topics essential to the installation, configuration, and administration of the TCP/IP protocol suite. Prerequisite: Networking Essentials.

IM108 TECHNICAL DRAWING I (4.5 credits/60 clock hours) This course is a practical approach to the fundamentals of manual engineering drawing and includes an introduction to computer aided drafting (CAD). Included are ANSI, ASME, AWS, and SI standards. Concepts covered include scales and precision measurement, auxiliary views, sections and dimensioning. Prerequisite: None.

IM245 TECHNICAL DRAWING II (4.5 credits/60 clock hours) An introduction to computer-assisted drafting systems using AutoCAD. This course will present the basic commands and techniques required to create, annotate, revise, and print technical drawings using a computer. The course material will be reinforced through hands-on examples and projects. Prerequisite: Technical Drawing I.

CP130 TECHNICAL PRESENTATIONS (2.0 credits/24 clock hours) This course covers principles of effective technical presentations and provides a structure for applying them in a professional setting common to the Information Technology profession. Prerequisite: Business Applications.

CP269 TECHNICAL PRESENTATIONS (1.0 credits/24 clock hours) This course covers principles of effective technical presentations and provides a structure for applying them in a professional setting common to the Information Technology profession. Prerequisite: Business Applications.

GE252 TECHNICAL WRITING (1.5 credits/36 clock hours) The students will apply their Business English I experience in learning how to write effective business documents. Types of documents include resumes, cover letters, technical descriptions, process descriptions, work instructions, and proposals. The students perform readability tests and learn how to improve existing documentation. Prerequisites: Business English I and Business Applications or Microsoft Office or Microsoft Word.

GE259 TECHNICAL WRITING (2.5 credits/36 clock hours) The students will apply their Business English I experience in learning how to write effective business documents. Types of documents include resumes, cover letters, technical descriptions, process descriptions, work instructions, and proposals. The students perform readability tests and learn how to improve existing documentation. Prerequisites: Business English I and Business Applications or Microsoft Office or Microsoft Word.

CJ206 TERRORISM AND HOMELAND SECURITY (2.0 credits/36 clock hours) This course studies the phenomena of international and domestic terrorism from the historical and criminal justice perspectives. Historical and political viewpoints are discussed, as well as a study of the changing trends in homeland security and justice. Prerequisite: None.

CJ232 TERRORISM AND HOMELAND SECURITY (3.0 credits/36 clock hours) This course studies the phenomena of international and domestic terrorism from the historical and criminal justice perspectives. Historical and political viewpoints are discussed, as well as a study of the changing trends in homeland security and justice. Prerequisite: None.

OS200 THE VIRTUAL OFFICE ENVIRONMENT (3.5 credits/48 clock hours) This course is designed to develop the students understanding of project management and the virtual office environment (Cloud Computing, Transcription, Scanning, etc.). Prerequisites: Document Processing.

GA123 TYPOGRAPHY (4.5 credits/60 clock hours) This fundamental typography course focuses on the expressive and functional aspects of typography in graphic design. Assisting the student in forming a basic understanding of typography based design elements will enable them to advance themselves imaginatively, creatively, and eloquently. Prerequisite: None.

GA203 TYPOGRAPHY AS DESIGN (3.0 credits/60 clock hours) Continues the study of typography; this course will further examine the relationship of type and graphic design. Using traditional and computer generated typography as a dominant element, projects will be accomplished to study current typographic trends in graphic design. Prerequisite: Typography.

GA224 TYPOGRAPHY AS DESIGN (4.5 credits/60 clock hours) Continues the study of typography; this course will further examine the relationship of type and graphic design. Using traditional and computer generated typography as a dominant element, projects will be accomplished to study current typographic trends in graphic design. Prerequisite: Typography.

GA213 TYPOGRAPHY – EXPRESSIVE & EXPERIMENTAL (2.5 credits/60 clock hours) Emphasis is placed on the expressive potential of typography. How the form of the written word(s) affects the meaning is studied experimentally. The emphasis is on design elements from the perspective of history, psychology, and artistic interpretation executed with digital tools. Prerequisite: Typography as Design.

GA223 TYPOGRAPHY – EXPRESSIVE & EXPERIMENTAL (3.5 credits/48 clock hours) Emphasis is placed on the expressive potential of typography. How the form of the written word(s) affects the meaning is studied experimentally. The emphasis is on design elements from the perspective of history, psychology, and artistic interpretation executed with digital tools. Prerequisite: Typography as Design.

DS210 ULTRASOUND OF THE THYROID, BREAST, AND SUPERFICIAL STRUCTURES (3.0 credits/60 clock hours) Describes diseases and sonographic anatomy of the breast, including discussion of X-ray, mammography, ultrasound screening, and biopsy. Presents endocrinology of the thyroid gland, including diseases such as thyroiditis, multinodular goiter, hyper and hypothyroidism, and various benign and malignant tumors. Also describes diagnostic blood tests for thyroid dysfunction. Other topics include evaluation of the testicles and prostate gland, superficial cysts, and muscle tumors (sarcoma). This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS322 ULTRASOUND OF THE THYROID, BREAST, AND SUPERFICIAL STRUCTURES (5.0 credits/60 clock hours) Describes diseases and sonographic anatomy of the breast, including discussion of X-ray, mammography, ultrasound screening, and biopsy. Presents endocrinology of the thyroid gland, including diseases such as thyroiditis, multinodular goiter, hyper and hypothyroidism, and various benign and malignant tumors. Also describes diagnostic blood tests for thyroid dysfunction. Other topics include evaluation of the testicles and prostate gland, superficial cysts, and muscle tumors (sarcoma). This course includes an integrated, hands-on scanning component with required competency assessment. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS208 ULTRASOUND PHYSICS & INSTRUMENTATION I (2.5 credits/48 clock hours) This course presents the basic physics of diagnostic ultrasound, including properties of pulse-echo ultrasound, display modes, instrumentation, and resolution. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS222 ULTRASOUND PHYSICS & INSTRUMENTATION I (4.0 credits/48 clock hours) This course presents the basic physics of diagnostic ultrasound, including properties of pulse-echo ultrasound, display modes, instrumentation, and resolution. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS242 ULTRASOUND PHYSICS & INSTRUMENTATION II (4.0 credits/48 clock hours) This course is a continuation of Ultrasound Physics & Instrumentation I and begins with discussion of the Doppler effect, calculation of flow velocities via the Doppler equation, methods of spectral analysis such as FFT (fast fourier transformation), analog and digital displays, and color Doppler. Covers properties of Doppler ultrasound instruments such as pulse repetition frequency (PRF), aliasing, and Nyquist limit. Includes discussion of power and intensity measurements of ultrasound instruments, and various methods of calculating dosage. Discussion of legal ramifications of output power of ultrasound instruments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS266 ULTRASOUND PHYSICS & INSTRUMENTATION II (2.5 credits/48 clock hours) This course is a continuation of Ultrasound Physics & Instrumentation I and begins with discussion of the Doppler effect, calculation of flow velocities via the Doppler equation, methods of spectral analysis such as FFT (fast fourier transformation), analog and digital displays, and color Doppler. Covers properties of Doppler ultrasound instruments such as pulse repetition frequency (PRF), aliasing, and Nyquist limit. Includes discussion of power and intensity measurements of ultrasound instruments, and various methods of calculating dosage. Discussion of legal ramifications of output power of ultrasound instruments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

CP340 UNIX/LINUX ESSENTIALS (4.5 credits/60 clock hours) This course explores the Linux operating system and teaches students how to install, configure, and update a Linux operating system. Students will perform tasks such as creating, managing, and deleting user accounts, performing software installation and package management, writing bash scripts, installing and configuring various Linux distributions, automating the scheduling of tasks, managing remote access, and configuring network interfaces and services. Prerequisite: Introduction to Operating Systems.

DM206 VASCULAR PATHOPHYSIOLOGY (5.0 credits/60 clock hours) This course systematically presents the anatomy, physiology and pathophysiology of the vascular system, with an emphasis on the how it applies to performing vascular ultrasound examinations. Topics covered will include upper and lower extremity arterial and venous anatomy, cerebrovascular and intracranial arterial anatomy and visceral vascular anatomy. Students will learn venous and arterial hemodynamics, normal physiology and abnormal pathology identified in vascular testing such as venous thromboembolic disease, chronic venous insufficiency, atherosclerotic and aneurysmal disease processes and treatment options for both arterial and venous diseases. This course is an integrated, hands-on scanning course with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS254 VASCULAR PATHOPHSIOLOGY (3.0 credits/60 clock hours) This course systematically presents the anatomy, physiology and pathophysiology of the vascular system, with an emphasis on the how it applies to performing vascular ultrasound examinations. Topics covered will include upper and lower extremity arterial and venous anatomy, cerebrovascular and intracranial arterial anatomy and visceral vascular anatomy. Students will learn venous and arterial hemodynamics, normal physiology and abnormal pathology identified in vascular testing such as venous thromboembolic disease, chronic venous insufficiency, atherosclerotic and aneurysmal disease processes and treatment options for both arterial and venous diseases. This course is an integrated, hands-on scanning course with required competency assessments. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS268 VASCULAR PATHOPHYSIOLOGY (3.0 credits/36 clock hours) This course systematically presents the anatomy, physiology and pathophysiology of the vascular system, with an emphasis on the how it applies to performing vascular ultrasound examinations. Topics covered will include upper and lower extremity arterial and venous anatomy, cerebrovascular and intracranial arterial anatomy and visceral vascular anatomy. Students will learn venous and arterial hemodynamics, normal physiology and abnormal pathology identified in vascular testing such as venous thromboembolic disease, chronic venous insufficiency, atherosclerotic and aneurysmal disease processes and treatment options for both arterial and venous diseases. This course is taught concurrently with Vascular Pathophysiology Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS272 VASCULAR PATHOPHYSIOLOGY LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course with required competency assessments. Duplex assessment of the anatomy, physiology and pathophysiology of the vascular system will be taught in conjunction with Vascular Pathophysiology. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM207 VASCULAR TECHNOLOGY I (5.0 credit/60 clock hours) This course teaches applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to the most common vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing

and accreditation organizations and professional societies. This course includes an integrated, hands-on scanning component with required competency assessments for each examination demonstrated. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS252 VASCULAR TECHNOLOGY I (3.0 credit/60 clock hours) This course teaches applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to the most common vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course includes an integrated, hands-on scanning component with required competency assessments for each examination demonstrated. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS282 VASCULAR TECHNOLOGY I (3.0 credit/36 clock hours) This course teaches applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to the most common vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course is taught concurrently with Vascular Technology I Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS239 VASCULAR TECHNOLOGY I LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course teaching full vascular ultrasound protocols such as ankle/brachial indices, lower extremity venous duplex and extracranial cerebrovascular duplex examinations. B-mode, color and spectral Doppler examination requirements will be demonstrated as they relate to the most common vascular ultrasound, with required competency assessments for each examination demonstrated. This course is taught concurrently with Vascular Technology I. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM300 VASCULAR TECHNOLOGY II (6.0 credits/72 clock hours) This is course is a continuation of Vascular Technology I and teaches additional applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course includes an integrated, hands-on scanning component with required competency assessment for each examination protocol demonstrated. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS308 VASCULAR TECHNOLOGY II (4.0 credits/72 clock hours) This is course is a continuation of Vascular Technology I and teaches additional applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course includes an integrated, hands-on scanning component with required competency assessment for each examination protocol demonstrated. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS323 VASCULAR TECHNOLOGY II (3.0 credits/36 clock hours) This is course is a continuation of Vascular Technology I and teaches additional applications of vascular ultrasound. Full vascular ultrasound protocols will be learned and will include lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be taught as they relate to vascular ultrasound examinations performed in a clinical setting. Each protocol will cover the examination purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. The most current techniques will be taught following the guidelines provided by national credentialing and accreditation organizations and professional societies. This course is taught concurrently with Vascular Technology II Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS324 VASCULAR TECHNOLOGY II LAB (3.0 credits/36 clock hours) This course is an integrated, hands-on scanning course taught as a continuation of Vascular Technology I Lab. It teaches full vascular ultrasound protocols including lower extremity arterial duplex, aorto/iliac duplex, upper extremity arterial and venous duplex, and transcranial Doppler examinations. B-mode, color and spectral Doppler examination requirements will be demonstrated as they relate to these protocols with required competency assessments for each examination demonstrated. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DM305 VASCULAR ULTRASOUND SPECIAL TOPICS (5.0 credits/60 clock hours) This course teaches indirect physiologic vascular testing of the peripheral arterial and venous systems. Full examination protocols will be demonstrated including purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. Students will learn to understand interpretation by focusing on numerous case presentations. Additionally, this course will also teach unusual vascular pathology encountered in a clinical setting and includes a term long research project involving with written and oral presentation. This course includes an integrated, hands-on scanning component with required competency assessments for each examination demonstrated. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS258 VASCULAR ULTRASOUND SPECIAL TOPICS (3.0 credits/60 clock hours) This course teaches indirect physiologic vascular testing of the peripheral arterial and venous systems. Full examination protocols will be demonstrated including purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. Students will learn to understand interpretation by focusing on numerous case presentations. Additionally, this course will also teach unusual vascular pathology encountered in a clinical setting and includes a term long research project involving with written and oral presentation. This course includes an integrated, hands-on scanning component with required competency assessments for each examination demonstrated. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS326 VASCULAR ULTRASOUND SPECIAL TOPICS (3.0 credits/36 clock hours) This course teaches indirect physiologic vascular testing of the peripheral arterial and venous systems. Full examination protocols will be demonstrated including purpose, indications, contraindications, logistics, examination technique, documentation and interpretation. Students will learn to understand interpretation by focusing on numerous case

presentations. Additionally, this course will also teach unusual vascular pathology encountered in a clinical setting and includes a term long research project involving with written and oral presentation. This course is taught concurrently with Vascular Ultrasound Special Topics Lab. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

DS327 VASCULAR ULTRASOUND SPECIAL TOPICS LAB (2.0 credits/24 clock hours) This course is an integrated, hands-on scanning course with required competency assessments of the topics demonstrated as part of Vascular Ultrasound Special Topics. Prerequisite: Must be enrolled in DMS, DPP, or DMP programs.

GA301 VIDEO PRODUCTION AND EDITING (3.0 credits/60 clock hours) This course introduces the student to video production and non-linear digital video editing. Instruction is given on basic techniques of projection incorporating camera operation, lighting, audio, and storyboarding. Using appropriate software, the student will learn how to operate desktop non-linear editors. Prerequisites: None.

GA308 VIDEO PRODUCTION AND EDITING (3.5 credits/48 clock hours) This course introduces the student to video production and non-linear digital video editing. Instruction is given on basic techniques of projection incorporating camera operation, lighting, audio, and storyboarding. Using appropriate software, the student will learn how to operate desktop non-linear editors. Prerequisites: None.

CP281 VOIP TELEPHONY (3.0 credits/60 clock hours) In this course students will learn to setup VOIP phones on a LAN. Students will examine Cisco's VOIP solutions as well as alterative VOIP systems. Video conferencing solutions will also be examined. Prerequisite: Cisco Networking.

CP341 VOIP TELEPHONY (4.5 credits/60 clock hours) In this course students will learn to setup VOIP phones on a LAN. Students will examine Cisco's VOIP solutions as well as alterative VOIP systems. Video conferencing solutions will also be examined. Prerequisite: Cisco Networking.

CP318 WEB SERVER ADMINISTRATION (3.0 credits/60 clock hours) In this course students will learn to setup and administer web servers on both Windows and Linux platforms. Students will manage multiple virtual hosts, install SSL certificates, redirect pages, block access, and apply basic security practices to web servers. Prerequisites: UNIX/Linux Essentials, Networking Essentials, and Web Site Design**.**

CP335 WEB SERVER ADMINISTRATION (4.5 credits/60 clock hours) In this course students will learn to setup and administer web servers on both Windows and Linux platforms. Students will manage multiple virtual hosts, install SSL certificates, redirect pages, block access, and apply basic security practices to web servers. Prerequisites: UNIX/Linux Essentials, Networking Essentials, and Web Site Design**.**

CP131 WEB SITE DESIGN (4.5 credits/60 clock hours) This course introduces Website design skills and techniques using HTML resources, Adobe Dreamweaver and Web graphics editing software (Adobe Photoshop). Website planning, proper color selection, and content creation will be covered. Students will learn the basic techniques of manually creating Websites using Dreamweaver as well as using HTML/CSS programming code. Students will also learn to create and edit graphs, images and animation for the Web. Content Management Systems (CMS) based Website development will also be introduced. This course will provide the basic fundamentals to various types of Web development techniques and associated graphics, enabling students to create, modify and enhance commercially viable Web pages. Prerequisite: None.

CP233 WEB SITE DESIGN (3.0 credits/60 clock hours) This course introduces Website design skills and techniques using HTML resources, Adobe Dreamweaver and Web graphics editing software (Adobe Photoshop). Website planning, proper color selection, and content creation will be covered. Students will learn the basic techniques of manually creating Websites using Dreamweaver as well as using HTML/CSS programming code. Students will also learn to create and edit graphs, images and animation for the Web. Content Management Systems (CMS) based Website development will also be introduced. This course will provide the basic fundamentals to various types of Web development techniques and associated graphics, enabling students to create, modify and enhance commercially viable Web pages. Prerequisite: None.

CP323 WEB SITE DESIGN II (3.0 credits/60 clock hours) This course introduces advanced web site design techniques using Adobe Dreamweaver and advanced web graphics editing using Adobe Photoshop. Students will learn advanced techniques of creating web sites using Dreamweaver XHTML programming code. Advanced CSS implementation along with various methods of site design will be explored. Primary focus will be on further developing the students skills using tag development, CSS/ CSS3/, responsive design techniques, and Javascript when developing a website, enabling students to create more dynamic, interactive, and commercially viable web pages. Prerequisite: Web Site Design.

CP336 WEB SITE DESIGN II (4.5 credits/60 clock hours) This course introduces advanced web site design techniques using Adobe Dreamweaver and advanced web graphics editing using Adobe Photoshop. Students will learn advanced techniques of creating web sites using Dreamweaver XHTML programming code. Advanced CSS implementation along with various methods of site design will be explored. Primary focus will be on further developing the students skills using tag development, CSS/ CSS3/, responsive design techniques, and Javascript when developing a website, enabling students to create more dynamic, interactive, and commercially viable web pages. Prerequisite: Web Site Design.

GE157 WRITING FOR CRIMINAL JUSTICE (3.5 credits/60 clock hours) Students will apply the principles of grammar, punctuation, usage, composition, and critical thinking to writing effective legal and business messages. Students will learn acceptable business correspondence formats and will prepare a resume, a letter of application, and a thank-you letter. Students will also write a legal article for publication. As a final project, students will also produce a legal issue brief on recent legal legislation or case law. The legal brief will discuss the issues, identify stakeholders, and evaluate the pros and cons of the issue. Some writing assignments will team students with partners for a collaborative writing experience. Students will also take weekly vocabulary/writing quizzes, and the average score of all quizzes will equal one test score. Prerequisite: Business English II with a grade of C- or better.

GE182 WRITING FOR CRIMINAL JUSTICE (4.5 credits/60 clock hours) Students will apply the principles of grammar, punctuation, usage, composition, and critical thinking to writing effective legal and business messages. Students will learn acceptable business correspondence formats and will prepare a resume, a letter of application, and a thank-you letter. Students will also write a legal article for publication. As a final project, students will also produce a legal issue brief on recent legal legislation or case law. The legal brief will discuss the issues, identify stakeholders, and evaluate the pros and cons of the issue. Some writing assignments will team students with partners for a collaborative writing experience. Students will also take weekly vocabulary/writing quizzes, and the average score of all quizzes will equal one test score. Prerequisite: Business English II with a grade of C- or better.