COMPUTER SYS & TECHNOLOGIES (CPST)

CPST 1000 Intro To Office Applications (3 Credit Hours)
This course introduces students to the microcomputer and some popular micro applications. Special attention is given to essential concepts, word processing, spreadsheets, and database management. The course also provides a preface to operating environments such as Windows. Includes hands-on laboratory sessions; currently, Microsoft Office tools are used for this course. Note: This course does not count toward the requirements for a major or minor in Applied Computing Systems and Technology but can be used to satisfy a science distribution requirement for the School of Continuing Studies.

CPST 1070 Math For Info Technology (3 Credit Hours)
This course provides an introduction to discrete mathematical structures and themes with an emphasis on applications to computing and information technology. It develops analytical skills used to solve problems concerning the speed and logical structure of computer software, computer hardware, and computer networks. Note: This course does not count toward the requirements for a major or minor in Applied Computing Systems and Technology but can be used to satisfy one of the mathematics requirements for the School of Continuing Studies.

CPST 1200 Fund of Info Systems & Tech (3 Credit Hours)
This survey course provides a broad foundation in the concepts of modern information systems, information processing, and information technologies. It provides an overview of the key technology components that make up modern information systems and the processes and issues involved in the development of information systems.

CPST 1400 Internet Collaboration (3 Credit Hours)
This course acquaints the students with the Internet, its uses and history, and a wide variety of tools and applications for effectively accessing information. Students will have the opportunity to learn classic text-based Internet applications, as well as graphical and multimedia capabilities of the World Wide Web. Coverage of basic technologies (e.g., hardware, protocols, authoring software) is included. Note: This course does not count toward the requirements for a major or minor in Applied Computing Systems and Technology but can be used to satisfy a science distribution requirement for the School of Continuing Studies.

CPST 1880 Writing Intensive: CPST 1400 (1 Credit Hour)

CPST 2200 Application Dev Fundamentals (3 Credit Hours)
This course presents a structured approach to problem analysis, algorithm design and solution implementation in a high level computer language. Students will learn how to analyze problems and represent solutions in pseudo-code. Students will study the basic concepts of programming, internal representation of data, simple data types, searching and sorting techniques.

CPST 2300 Database Fundamentals (3 Credit Hours)
Introduction to database management systems with an emphasis on relational database concepts, database processing, data modeling, database design, development and implementation. Includes implementation of current DBMS tools and SQL.

Prerequisite(s): CPST 2200.

* May be taken concurrently.

CPST 2400 Webpage Design & Develpm (3 Credit Hours)
This course goes beyond mere use of the Internet into the tools and techniques needed to successfully publish digital media. Through lectures, class discussions, and hands-on lab work, you will become acquainted with the hardware, software (on workstations, on servers, and on the Internet), and tool management techniques needed to create and maintain web documents and sites. The course includes coverage of HTML and CSS.

CPST 2500 IT Infrastructure Fundamentals (3 Credit Hours)
This course covers the basic principles and applications of technology architecture including hardware, software, virtualization of servers, storage, and networking. Utility servers/appliances, server environments, and Cloud architecture will be presented in the course. Software to be studied includes Operating Systems, virtualization software, application software, and hardware appliance management software. Key concepts such as security, redundancy, reliability, maintainability, and availability will be discussed. Students will be provided with an overview of technology architectures, data systems, and the applications that manage system resources.

CPST 2600 Networking Fundamentals (3 Credit Hours)
This course covers topics related to wired/wireless connectivity and data exchange between digital devices. In addition to learning common networking terminology, students will examine and perform hands-on exercises using existing and emerging networking standards and architectures. Also covered are network operating systems, topologies, structured cabling, communications protocols, LAN-to-LAN interconnectivity and WAN fundamentals. This course is intended to provide a solid foundation for further study of IT networking connectivity principles.
CPST 2700 Fund of Cybersecurity (3 Credit Hours)
This course provides the student with an overview of the field of cybersecurity and assurance, and a foundation for understanding the key issues associated with protecting information assets, and designing a consistent, robust cybersecurity posture. Students will be exposed to the spectrum of cybersecurity activities, devices, methods, methodologies, and procedures. Coverage will include inspection and prevention, detection, and response to cybersecurity threats, and an overview of the cybersecurity planning and staffing functions.

CPST 2910 Documentation & Tech Writing (3 Credit Hours)
This course provides a complete process for planning, creating, and editing technical content, for both internal and external audiences including assessing the needs of users, selecting appropriate formats, making effective use of media, and selecting the best content organization and delivery platform. Students demonstrate proficiency in written content creation and presentation skills by producing different technical writing products, including formal research reports and workplace writing (e.g., technical reports, manuals, explanations of how to understand or use a product or service, proposals, etc.). Students will be exposed to software applications to architect, organize, and publish technical content and media. This course will also address the job duties of technical writers/editors. Topics include establishing positive working relationships with writers, management, and subject matter experts.

Prerequisite(s): (CPST 1200 or 1200) and (CPST 3050 or 3050).

CPST 3050 Technology & Ethics (3 Credit Hours)
This course examines the ethical and social aspects of information technology with emphasis on computing. Pertinent issues include acquisition, access, stewardship, liability, freedom, privacy, control and security. Note: This course can be used to satisfy a School of Continuing Studies? Humanities Distribution Requirement.

Prerequisite(s): CPST 1200.

CPST 3220 O-O Programming w/ Java (3 Credit Hours)
This course presents the fundamentals of the JAVA programming language. Topics include JAVA syntax, data types, design of classes, class libraries, data structures, exception handling, threads, input and output, and applet programming.

Prerequisite(s): CPST 2200.

CPST 3230 Application Development In C++ (3 Credit Hours)
This course presents the fundamentals of the C++ programming language. It covers development of computer-based solutions in C++, using object-oriented and event-driven techniques, and accessing databases with open database connectivity.

Prerequisite(s): CPST 2200.

CPST 3250 User Interface/Experience Dsgn (3 Credit Hours)
This course examines topics related to developing and evaluating user interfaces for interactive computer systems. Topics covered include usability goals and principles, user interface design principles, managing design processes, prototyping and construction, interface metaphors, interaction styles, interaction devices, software tools, user interface builders, evaluation paradigms and techniques, usability testing, user manuals, tutorials, computer-supported collaborative work.

CPST 3260 Virtualization and Cloud (3 Credit Hours)
This course focuses on the skills and knowledge necessary for provisioning and managing virtualized services in cloud Infrastructure as a Services (IaaS) environments including: virtual networks, virtual machines, containers, web and mobile apps, and storage; planning and managing cloud resources, and configuring Azure AD integration with on-premises Active Directory domain.

Prerequisite(s): (CPST 1200 or 1200).

CPST 3270 Cloud Foundations (3 Credit Hours)
This course provides a detailed overview of cloud concepts, services, security, architecture, pricing, and support. Students will receive an overview of the fundamental concepts of cloud computing independent of specific technical roles. Students will be exposed to cloud infrastructure and will deploy basic cloud services.

Prerequisite(s): (CPST 4610 or 4610).

CPST 3280 Cloud Architecture (3 Credit Hours)
This course covers the concepts of building IT infrastructure on a public cloud service provider’s infrastructure. The course is designed to teach students how to optimize the use of the cloud by understanding a variety of service solutions and how these services fit into cloud-based solutions. Because cloud-based architectural solutions, and related costs, can differ depending on environment, type of applications, and size of business, this course emphasizes best practices for cloud computing architecture, and it recommends various design patterns to help the student think through the process of architecting optimal IT solutions.

Prerequisite(s): (CPST 3270 or 3270).
CPST 3290 Hybrid Cloud Infrastructure (3 Credit Hours)
This course teaches students about the nature, benefits and drawbacks of using a Hybrid Cloud solution, in relation to other deployment models. Students will also learn to implement a hybrid cloud computing environment using industry standard cloud service provider tools. Students will learn how to install, configure, use and maintain a hybrid cloud environment. Students will be exposed to the myriad of decisions and actions required when implementing a hybrid Cloud solution. This course covers core hybrid cloud services: identity, storage, image, networking, compute, memory, and management dashboards.

Prerequisite(s): (CPST 3260 or 3260).

CPST 3310 Rel DB Design & Develpmt (3 Credit Hours)
This course covers design and development concepts for relational database systems. The students will work on the design and development of a database application by analyzing organizational data needs, model and present those needs using diagrams and specifications, exploring different database designs, and implementing the design in a working system. Topics include normalization, entity-relationship modeling, database application design, data base processing using internet technology, managing multi-user data bases, accessing the database server, and sharing enterprise data.

Prerequisite(s): CPST 2300.

CPST 3400 Website Developmt w/ XML/XHTML (3 Credit Hours)
This course is designed to provide students with an introduction to programming using XML. Students taking this course should have a working knowledge of HTML and FTP as gained by completing the course Webpage Design and Development course. Students should have a basic understanding of programming concepts and a relational database including relationships of primary and secondary tables via keys and foreign keys. Some sample learning activities are: author XML documents using a given Document Type Definition (DTD); create a DTD; create a CSS and/or XSLT style sheet; create an XML-based information system that brings together the skills learned throughout the course.

Prerequisite(s): CPST 2200* and 2400*.
* May be taken concurrently.

CPST 3410 Website Dev w/ Javascript (3 Credit Hours)
This course provides the opportunity to obtain a solid understanding of some of the tools and techniques, beyond basic HTML, used to publish on the Internet via the World Wide Web. Through online 'lectures' and posted materials, electronic discussions, and hands-on 'lab' work you will become acquainted with the computer hardware, software (both used on your machine and the Net), and programming techniques needed to design, create and maintain fully interactive Web documents and sites. This course will focus primarily on JavaScript programming and some additional advanced techniques and concepts.

Prerequisite(s): CPST 2400* and 2200*.
* May be taken concurrently.

CPST 3500 IT Project Management (3 Credit Hours)
This course provides an introduction to the principles and application of project management techniques with an emphasis on the design and management of Information Systems. Topics include project planning, work team design, project estimation techniques, project reporting, identifying and controlling project risks, budgets, and quality assurance.

Prerequisite(s): CPST 1200.

CPST 3550 Systems Analysis & Design (3 Credit Hours)
Examines the concepts, tools, and techniques used to develop and support computer-based information systems. Systems planning, analysis, design, and implementation are covered. Techniques for studying, documenting, specifying, designing, implementing and testing small and/or enterprise-wide business systems. Analysis and design includes structured and object-oriented methods, using CASE tools.

Prerequisite(s): CPST 2300*.
* May be taken concurrently.

CPST 3610 Internet Server Admin with IIS (3 Credit Hours)
This course will provide students with a comprehensive understanding of all facets of Microsoft Windows server based Web service installation, configuration, administration, and maintenance. The course will focus on hardware, software, Internet protocols, and advanced Web server hosting and services. It provides students with the understandings and skills needed to effectively plan, implement, and deploy valuable World Wide Web services in a professional or personal capacity.

Prerequisite(s): CPST 3700.
CPST 3650 Linux Administration & Security (3 Credit Hours)
This course will provide students with a comprehensive understanding of all facets of Linux/Unix server based Web service installation, configuration, administration, and maintenance. The course will focus on hardware, software, Internet protocols, and advanced Web server hosting and services. It provides students with the understandings and skills needed to effectively plan, implement, and deploy valuable World Wide Web services in a professional or personal capacity.

Prerequisite(s): CPST 3700.

CPST 3930 Cyber Threats & Cyber Security (3 Credit Hours)
Cyberspace has become a pervasive presence in modern society, and a healthy functioning cyberspace is essential to our economy and to national security. Along with benefits, however, there exist threats and malicious actors who seek to exploit cyberspace vulnerabilities. This course will study the nature of cyber threats, including computer and digital crimes, information warfare and cyber terrorism, and related threats to personal, organizational, economic and national security. Students will gain an understanding of the variety and nature of cyber threats including digital espionage, computer break-ins, computer hacking, viruses, communications eavesdropping, forgery, disruption to information flow, electronic bombs and the growing presence of terrorist organizations on the Internet, and how the Internet is used to further terrorist activities. The course will also cover countermeasures to cyber threats; cyber-security investigations, evidence gathering, and legal challenges; and current and national policies for securing cyberspace and the impact of cyber security on privacy and civil liberties.

Prerequisite(s): CPST 3900 or HMLS 3600.

CPST 4000 Independent Studies (1-4 Credit Hours)

CPST 4100 Special Topics (3 Credit Hours)

CPST 4101 SCRUM Development Method (3 Credit Hours)

CPST 4250 Application Dev Capstone (3 Credit Hours)
This course focuses on using tools to develop a Web based integrated business application utilizing a relational database. Based on requirements identified in a business case, database structures will be implemented and GUI web pages will be developed to satisfy the business functionality.

Prerequisite(s): CPST 3250 and 3310.

CPST 4320 Business Intelligence (3 Credit Hours)
This course introduces students to structures and techniques used to transform data into information for decision-making. Business intelligence is an increasingly important part of both small and large organizations, as well as government. Business intelligence can be used across a wide spectrum of enterprises, such as health care, exploration, security, identifying markets, predicting behavior and forecasting demand. The materials in this course are designed to give the student important new tools to assist in business decision making, whether this involves identifying new markets, extracting data to better understand current markets and forecasting demand using simple statistical methodologies.

Prerequisite(s): CPST 3310.

CPST 4340 Database Administration- SQL (3 Credit Hours)
A technical overview for SQL Server administration. SQL Server offers a platform for enterprise data management, robust development, and implementation of modern databases. Students will be exposed to how to install, administer, maintain and troubleshoot Microsoft SQL Server Databases. This course also provides students with the technical skills required to write basic Transact-SQL queries for Microsoft SQL Server. Students will work in a lab environment to install SQL Server 2016 and will then work through a series of various activities to learn the crucial tasks of an SQL Server administrator.

Prerequisite(s): (CPST 2300 or 2300).

CPST 4350 Database Administration-Oracle (3 Credit Hours)
This course provides the student with a fundamental understanding of the tasks and issues associated with database administration. Topics and activities include: installation and management of a database system; ensuring data integrity; managing users, privileges, and resources, implementing of basic backup and recovery procedures and identifying tuning opportunities. Students will work in a lab environment to install a database management system, and will then work their way through a series of crucial system-side activities to learn the various tasks of a database administrator.

Prerequisite(s): CPST 2300.
CPST 4500 System Reqs Devel & Testing (3 Credit Hours)
This course provides a study of concepts and techniques for planning and developing high quality information systems. Fundamentals of specification (including formal models and representations, documents, and standards) are examined. Methods of specifying and developing requirement for generating information systems are discussed. It covers the tools, methods, and current practices for assessing the quality and correctness of information systems. Topics include the roles of testing and formal verification, fundamentals and formal models of program verification, planning and documentation for quality assurance, methods of performing technical reviews, strategies of system testing and integration planning, and principles and practices used in conducting tests. Projects using these techniques are included.

Prerequisite(s): CPST 3550*. 
* May be taken concurrently.

CPST 4550 Product & Program Capstone (3 Credit Hours)
This course provides for the application of Information Systems concepts to a comprehensive group project for the planning, development and implementation of an information system. Management planning, scheduling, and reporting are required. Documentation to include feasibility studies, alternative implementation strategies, programming, testing and users manuals. Appropriate computer assisted software engineering tools are used throughout the project from requirement specification to implementation and testing.

Prerequisite(s): CPST 3550.

CPST 4610 Windows Server Administration (3 Credit Hours)
This course is designed to prepare the student for the challenges faced by network administrators, helpdesk technicians, and network analysts. Individuals working in these areas have the responsibility for installing and maintaining local area networks based on Microsoft Windows and other network operating systems. This course provides hands-on experience planning, deploying, and administering a network using Microsoft Windows Server based systems.

Prerequisite(s): CPST 3600 and 3700.

CPST 4640 Tcp/Ip Protocol (3 Credit Hours)
This course will focus primarily on the TCP/IP protocol suite and a set of related network services. It is designed to help students understand networks that use TCP/IP, the suite of protocols that is used today for the Internet and most modern networks.

Prerequisite(s): CPST 3700.

CPST 4650 Unix System Administration (3 Credit Hours)
The Solaris Operating System (Solaris OS) is the foundation on which some of the world's leading companies are built. Offering high levels of reliability, availability, security, and scalability, Solaris systems meet today's demands while anticipating tomorrow's innovation. The objective of this course is to provide a comprehensive understanding of the administrative aspects of the Solaris operating system. At the end of the course students will have the skills required to administer a Solaris system, including user management, disk management, backing up procedures, startup and shutdown procedures, and process management. The course provides students with the opportunity to integrate and apply administration in a comprehensive manner indicative of Information Technology programs of study.

Prerequisite(s): CPST 3650.

CPST 4670 Identity & Access Management (3 Credit Hours)
This course is designed to familiarize students with the skills needed to administer a Microsoft network in the enterprise. The course provides an in-depth look at the features of Active Directory, including Group Policy, scripting, replication, and disaster recovery, plus the use of Exchange Server in the enterprise for reliable messaging services.

Prerequisite(s): CPST 3700 and 4610.

CPST 4710 Network Infrastruc Capstone (3 Credit Hours)
This course is designed to help students learn how to design, implement and maintaining a network infrastructure, including topics such as the Dynamic Host Configuration Protocol (DHCP), Windows Internet Name Server (WINS), Domain Naming System (DNS), Remote Access and Virtual Private Networking (VPN).

Prerequisite(s): CPST 3700 and 4610.

CPST 4750 IP Routing & Switching (3 Credit Hours)
The TCP/IP suite of protocols is the de facto standard for multi-vendor connectivity within corporations and serves as the basis for Internet connectivity. This course focuses on Internet communications architecture and the internetworking between autonomous systems that is facilitated by IP routing. Layer 2 and Layer 3 (IP Switching) architectures will also be examined in relation to interLAN and VLAN routing.

Prerequisite(s): CPST 3700 and 4640.
CPST 4770  Advanced IP Networking  (3 Credit Hours)
A comprehensive overview of networking topics, at an advanced level. Students will focus on core concepts that will allow the experienced network individual to understand the "why" behind the protocols they work with every day and see the big picture of networking. This course explores advanced switching concepts such as Spanning Tree and link aggregation. Dynamic Routing Protocols are covered in detail. Students will be exposed to advanced hands-on routing and real-world switching exercises.
Prerequisite(s): (CPST 4750 or 4750).

CPST 4800  Virtualization Administration  (3 Credit Hours)
Prerequisite(s): CPST 4610.

CPST 4810  Windows Security  (3 Credit Hours)
Prerequisite(s): CPST 3900 and 4610.

CPST 4850  Penetration Testing  (3 Credit Hours)
Prerequisite(s): (CPST 3700 or 3700) and (CPST 3900 or 3900).

CPST 4870  Forensics, Investigate & Resp  (3 Credit Hours)
Prerequisite(s): CPST 3900.

CPST 4900  Cyber Security Capstone  (3 Credit Hours)
Prerequisite(s): CPST 3900.

CPST 4910  Special Topics Course  (1-3 Credit Hours)
This course is an introduction to both fundamental programming concepts and the Python programming language. Students will be exposed to these concepts through the creation of a 2D game using Python and Pygame.

CPST 4911  Special Topics  (3 Credit Hours)
This course is a special offering in the Applied Computing program.

CPST 4912  Special Topics  (3 Credit Hours)
This course is a special offering in the Applied Computing program.

CPST 4913  Special Topics  (3 Credit Hours)
This course is a special offering in the Applied Computing program.

CPST 4914  Special Topics  (3 Credit Hours)
This course is a special offering in the Applied Computing program.

CPST 4915  Special Topics  (3 Credit Hours)
This course is a special offering in the Applied Computing program.

CPST 4916  Special Topics  (3 Credit Hours)
This course is a special offering in the Applied Computing program.

CPST 4917  Special Topics  (3 Credit Hours)
This course is a special offering in the Applied Computing program.

CPST 4918  Special Topics  (3 Credit Hours)
This course is a special offering in the Applied Computing program.

CPST 4919  Special Topics  (3 Credit Hours)
This course is a special offering in the Applied Computing program.

CPST 4920  Special Topics Course  (1-3 Credit Hours)
This course is designed to provide students with an introduction to website security and privacy issues. Students will understand how to identify security/privacy issues, recognize security issues involving Java, the Internet and email. Students will also explore techniques and best practices for limiting risk.

CPST 4930  Network Security  (3 Credit Hours)
This course is designed to provide fundamental skills needed to analyze the internal and external security threats against a network, and to develop security policies that will protect an organization's information. Students will learn how to evaluate network and Internet security issues and design, and how to implement successful security policies and firewall strategies. In addition, they will learn how to expose system and network vulnerabilities and defend against them.
Prerequisite(s): CPST 4610.
CPST 4950 Website Security (3 Credit Hours)
This course is designed to provide students with an introduction to website security and privacy issues. Students will understand how to identify security/privacy issues, recognize security issues involving JAVA, the Internet and email. Students will also explore techniques and best practices for limiting risk.

Prerequisite(s): CPST 2400 and 3900.

CPST 6320 Business Intelligence (3 Credit Hours)
This course is designed as an upper level undergraduate and graduate level course. This course introduces students to structures and techniques used to transform data into information for decision-making. Business intelligence is an increasingly important part of both small and large organizations, as well as government. Business intelligence can be used across a wide spectrum of enterprises, such as health care, exploration, security, identifying markets, predicting behavior and forecasting demand. The materials in this course are designed to give the student important new tools to assist in business decision making, whether this involves identifying new markets, extracting data to better understand current markets and forecasting demand using simple statistical methodologies.

CPST 6500 Systems Req Dev and Test (3 Credit Hours)
This course provides a study of concepts and techniques for planning and developing high quality requirements management processes and hardware/software testing processes. Fundamentals of requirements analysis are examined, highlighting the importance and value of good requirements. Methods of planning and implementing a practical requirements gathering approach for information systems are discussed. Testing roles, techniques, and processes will be covered and it will be shown where and how the software testing process fits into the overall development methodology. Formal models of program verification, planning and documentation for quality assurance and methods of performing technical reviews will also be detailed. Strategies of system testing and integration planning including principles and practices used in conducting tests will be covered. Subject matter experts will be brought in to share with the class project examples and how they use these requirements management and test techniques in these projects.

CPST 6501 IT Project Management (3 Credit Hours)
This course provides an exploration into the tools and techniques of project management as they relate to information technology (IT) projects and software development. The course concepts adhere to the Project Management Body of Knowledge® (PMBOK®) description of best practices, and it covers the project management life cycle with its processes of initiating, planning, executing, monitoring and controlling the project. Emphasis is placed on areas of project planning and project management that are unique to software development projects and other IT projects.

CPST 7000 IT Governance and Policy (3 Credit Hours)
The managing of information has become critical to the success of a business or enterprise and the governance of the Information Technology (IT) resource has become an integral part of most organizations and is fundamental to support, operate, sustain, innovate and grow a business. IT Governance focuses on delivering value to the business by the proper management of the IT resource. It is an integrated approach consisting of the leadership, organizational structures and processes that ensure the effective alignment of IT with the organizations strategies and objectives. This course presents an inter-disciplinary approach to IT Governance. In the course students will learn about specific objectives of IT Governance, along with standards, frameworks, tools and techniques used in the planning, deploying, managing, monitoring, measuring and sustaining a successful IT governance plan. The course leverages and integrates current and emerging industry best practices, standards, guidelines and governance case studies.

CPST 7100 Managing the IT Department (3 Credit Hours)
This course is designed for graduate students who are, or aspire to be, either business managers or Information Systems (IS) managers, as well as those who are, or aspire to be, primarily technology specialists who will work in and for different types of businesses—including consultant firms and other firms competing in an information technology (IT) services industry. This course presents the tools necessary to best exploit information technology. By using case studies and the coverage of the key technology issues it will provide a perspective on how to evaluate the IS organization, and how to be a partner in managing data, information, and systems. It will prepare the student to be effective exploiters of computing technologies now and in the future by focusing on the information technology resources that organizations need and providing alternative approaches to managing them. Students will study the opportunities and pitfalls provided by these technologies and what they need to know to manage and make effective use of these technologies.

CPST 7150 The Business of IT (3 Credit Hours)
The goal of this course is to provide IT Management candidates with the experience in handling business processes that are necessary to successfully manage the business aspects of Information Technology. It covers business concepts and processes that are particularly germane to the management and use of Information Technology. These processes include Accounting and Finance, Human Capital and Payroll, Budget, Contract Management, Requests for Proposals, Statements of Work, and Service Level Agreements.
The goal of this course is to prepare Chief Information Officers and Chief Technology officers and senior managers with progressive approaches for state-of-the-art Information Technology (IT) infrastructures. IT systems exist in an abstraction of an Operating Environment with identifiable system capabilities – physical properties, characteristics, strategies, tactics, security, and sometimes luck. This course addresses Enterprise Software Architecture (ESA) and will identify multiple Systems of Interest (SOI). An analysis of two SOI fundamental types of behavior will be studied – hierarchical and peer level interactions of software. An understanding and adoption of ESA will maximize successful implementation, minimize risk, simplify operations, and insure compliance with regulatory requirements.

CPST 7250 SW Development Methods (3 Credit Hours)
A Software Development Methodology is a framework that is used to structure, plan, and control the process of developing an information system - this includes the pre-definition of specific deliverables and artifacts that are created and completed by a project team to develop or maintain an application. A wide variety of such frameworks have evolved over the years, each with its own recognized strengths and weaknesses. This course explores the many methodologies available for developing software. The business culture and requirements are presented as the center for evaluation of the most effective mix of methodologies for a specific development project. Students will study the software lifecycle from the identification of a need to the retirement of the software product that satisfies that need. They will learn about the strength and weakness of the various development methodologies and the appropriate situations in which to use them.

CPST 7600 Enterprise Infrastructure Arch (3 Credit Hours)
Enterprise Hardware Architecture (EHA) maximizes business functionality, minimizes risk, simplifies operations, and complies with regulatory requirements. This course will provide students with the knowledge to build an open/standards-based Enterprise Hardware Architecture that utilizes virtualization of servers, storage area networks (SAN), and network capabilities. Utility servers/appliances, Multi-tier server environments, and Cloud architecture will be researched and presented in the course. Key performance parameters, such as security, redundancy, reliability, maintainability, and availability, will be major considerations in the designs. A decision based approach and iterative improvement processes based on service fulfillment and technology trends will be utilized by students to design individual class projects.

CPST 7800 Cyber Law and Policy (3 Credit Hours)
This course will provide an overview of the legal issues related to the management of information in contexts in which information professionals are likely to be involved. In an age defined by information, knowledge of the legal issues that establish how information is required to be protected, maintained, collected, stored, and accessed is extremely important. Information Security policies must be evaluated in light of current laws and regulations. This will provide an overview of some of the most important legal issues in managing information so that students will be able to apply the information to particular professional situations that they may encounter. Topics will include such issues as US and international jurisdiction, computer security, intellectual property, electronic commerce, information privacy, freedom of expression, and cyber-crime. Included are analyses of significant legal case studies plus review of applicable federal and state legislation as applied to compliance of standards such as those found in the Health Insurance Portability and Accountability Act (HIPPA), Sarbanes Oxley, the Federal Information Security Management Act (FISMA), and the National Institute of Standards and Technology, Minimum Security Requirements for Federal Information and Information Systems (FIPS 200).

CPST 7850 Healthcare Informatics (3 Credit Hours)
Medical practitioners and healthcare delivery organizations face formidable administrative and technical challenges in the management of patient health and wellness, accurate and timely diagnosis of illness, and the determination and delivery of appropriate care and treatment. Information technology (IT) can play a key role in mitigating these challenges and thereby enabling healthcare performance transformation. Implementation of application and integration middleware (AIM), interoperable with analytics and accessible in real-time at the point of care and elsewhere, is the most cost-effective IT approach. This course explores the many issues and barriers faced by those IT professionals who are working to implement Health Information Systems.

CPST 7875 Independent Study (1-3 Credit Hours)
CPST 7800 Sec & Cyber Threats - IT Mgrs (3 Credit Hours)
This course provides an overview of the need for, and the technology, algorithms, and standards used in providing computer and communications security. It is concerned with the fundamentals of computer security. Topics in this class can be divided into three main parts: cryptography (with a focus on single-key and public key); computer system security (database and operating systems issues including authentication, access control, malicious software, and network security (including intrusion prevention/firewalls, intrusion detection, Denial of Service attacks, etc.); and the development of secure programs and applications.