DEPARTMENT OF INFORMATICS

The Department of Informatics is home to majors that reflect multiple disciplines representing a broad set of skills and professional attributes that are in high demand in business and technology industries. Our graduates have hands-on learning opportunities in software development, storage, information networks and management, human/computer interfaces, cyber security, mobile app development and electronic multimedia. In addition to some of the highest job placement rates, many of our students have opportunities to advance rapidly in their careers.

With graduates and alumni in both private and government sectors, we can connect you with opportunities in federal intelligence agencies like NSA, FBI, or Homeland Security; or with national and regional companies such as Nex-Tech/RuralTel, Cerner, Google, Cisco, Cargill, Koch Industries, Sprint, Verizon, In*Touch Solutions, NDG, CDW, and Zappos to name a few. We've had graduates with media emphasis go on to work in the content side of the information industry with companies like Fox Sports, HGTV, KWCH, Time Warner Cable, Eagle Communications, NBCUniversal and many regional network affiliates around the country. Entrepreneurial students leaving our programs have successfully marketed commercial apps to companies such as eBay or started their own technology or website business, like majorspoilers.com (http://www.majorspoilers.com).

Department of Informatics Faculty & Staff

See department page online for full listing

Programs
Bachelors

- Informatics | Bachelor of Arts: Information Networking and Telecommunication (https://catalog.fhsu.edu/business-entrepreneurship/informatics/information-networking-telecommunications-ba/)
- Informatics | Bachelor of Business Administration: Management Information Systems (https://catalog.fhsu.edu/business-entrepreneurship/informatics/management-information-systems-bba/)
- Informatics | Bachelor of Science in Information Networking and Telecommunications (https://catalog.fhsu.edu/business-entrepreneurship/informatics/information-networking-telecommunications-bs/)

Minors

- Minor: Computer Networking (https://catalog.fhsu.edu/business-entrepreneurship/informatics/computer-networking-minor/)
- Minor: Computer Networking and Telecommunications (https://catalog.fhsu.edu/business-entrepreneurship/informatics/computer-networking-telecommunications-minor/)
- Minor: Information Systems (non-Business majors) (https://catalog.fhsu.edu/business-entrepreneurship/informatics/nformation-systems-minor/)
- Minor: Management Information Systems (https://catalog.fhsu.edu/business-entrepreneurship/informatics/management-information-minor/)
- Minor: Media Production (https://catalog.fhsu.edu/business-entrepreneurship/informatics/media-production-minor/)
- Minor: Web Development (https://catalog.fhsu.edu/business-entrepreneurship/informatics/web-development-minor/)

Certificates

- Certificate: Applied Data Analytics (https://catalog.fhsu.edu/business-entrepreneurship/informatics/applied-data-analytics-certificate/)
- Certificate: Audio Production (https://catalog.fhsu.edu/business-entrepreneurship/informatics/audio-production-certificate/)
- Certificate: Business Foundations for IT (https://catalog.fhsu.edu/business-entrepreneurship/informatics/business-foundations-it-certificate/)
- Certificate: Business Information Systems (https://catalog.fhsu.edu/business-entrepreneurship/informatics/business-information-systems-certificate/)
- Certificate: Front-End Web Developer (https://catalog.fhsu.edu/business-entrepreneurship/informatics/front-end-web-developer-certificate/)
- Certificate: Full Stack Web Developer (https://catalog.fhsu.edu/business-entrepreneurship/informatics/full-stack-web-developer-certificate/)
- Certificate: Internetworking (https://catalog.fhsu.edu/business-entrepreneurship/informatics/internetworking-certificate/)
- Certificate: Management Information Systems - Graduate Level (https://catalog.fhsu.edu/business-entrepreneurship/informatics/management-information-certificate/)

Masters

- Informatics | Master of Professional Studies (Cyber Security) (https://catalog.fhsu.edu/business-entrepreneurship/informatics/cyber-security-mps/)
- Informatics | Master of Professional Studies (Information Assurance Management) (https://catalog.fhsu.edu/business-entrepreneurship/informatics/information-assurance-management-mps/)
- Informatics | Master of Professional Studies (Web and Mobile Applications) (https://catalog.fhsu.edu/business-entrepreneurship/informatics/web-applications-development-mps/)

Courses
Informatics

INF 101 Introduction to Computer Information Systems   (3 Credits)
This course is an introduction to computing with an emphasis on improving productivity and communications through the effective use of available technology. Students will acquire computing skills to increase personal productivity in problem-solving, critical thinking and information management through the use of available software packages designed for office applications and telecommunications.

INF 122 Introductory Workshop in Informatics + (1-3 Credits)
This is a variable content course designed to provide academic credit for lower division students participating in specialized workshops designed to explore one or more curricular areas of Information Networking and Telecommunications. Course subtitles reflect specific topics. Sample uses include: INT 122 Intro Workshop/Movie Making, INT 122 Intro Workshop/Web Team, INT 122 Intro Workshop/Exploring Information Sciences. This course may be taken multiple times with differing subtitles.

INF 140 Introduction to Electronic Media   (3 Credits)
This course presents an overview of the operations and history of the radio and television industry and its evolution to new media. It surveys contemporary media communication, strategy, industry issues, and policy issues. It also provides an introduction to the impact of the convergence of technologies in the electronic media.

INF 199 Informatics Elective (1-12 Credits)
This course is designed to receive non-equivalent elective transfer credit.

INF 240 Digital News Reporting   (3 Credits)
Beginning course in recognizing, gathering, and writing news. Outside reporting required.

Eligibility Rules: Has completed or currently enrolled in ENG102

INF 250 Introduction to Web Development   (3 Credits)
This course provides the concepts and skills for planning, development, and deployment of web-based hypermedia systems. It covers the use of text, graphics, audio, and video in web environments and the conversion of existing systems to web environments. A major web-based project is required. This is a required course for INF majors.

INF 291 Internetworking I   (3 Credits)
Students in this course will study the application of theories relevant to data communications for global internetworking and apply those concepts to a variety of assignments, including hands-on networking labs and projects. In the course of study topics that include the fundamentals of internetworking, the role of protocols and layered communications within data networks. Students will also learn about physical and logical network addressing, the devices and services that support data commuinications, as well as the fundamental concepts associated with routing and switching. This course is part of the 12-hour certificate in Internetworking offered by the department of Informatics and is a prerequisite to Internetworking II.

INF 292 Internetworking II   (3 Credits)
This course will continue to explore the fundamental internetworking concepts associated with routing and switching. Students will study key characteristics associated with Local Area Networks and the role the switches and routers play. Students will have the opportunity to learn about advanced switching concepts as well as apply them through hands-on laboratory projects. Students will also explore some static and dynamic routing, traffic filtering through access control lists, as well as advanced network service such as DHCP, DNS, and Network Address Translation . This is the second of two courses that are aligned with the objectives of Cisco's CCENT certificate exam. This course is part of a 12-hour certificate in Internetworking offered by the Department of Informatics and is the prerequisite for INF 393 Internetworking III.

Eligibility Rules: Has completed or currently enrolled in INF291

INF 300 Foundations of Informatics   (3 Credits)
This course introduces the student to the field of Information Networking and Telecommunications by examining both the technologies that are important in assembling and distributing information and the skills that are necessary to succeed in this field, such as critical thinking, peer and selfassessment, reflective thinking, collaborative work, time management, and professionalism. Completion of the course will allow the student to move on to more advanced courses in the major.

INF 302 Windows Client Administration   (3 Credits)
This course introduces students to the Microsoft Certification process. Students in the course will explore many different aspects of the Windows Operating System from an administrative view. Topics include: advanced installation procedures, user contiguration and management, systems management, file management, device installation and troubleshooting, advanced security features, networking, application management, and optimization/maintenance. Upon completion of the course students may elect to complete a Microsoft certification exam.

INF 303 Computer Operating Systems   (3 Credits)
Operating-system software and design, including device management, resource allocation, task scheduling and control, communications interfaces, user management, security, and current developments in the field. Extensive work in command and script languages for job control (e.g., DOS, VSE, VM, Windows).

INF 304 Management Information Systems   (3 Credits)
INF 304 Management Information Systems (MIS) investigates the use and management of information systems within organizations. The course covers a broad range of topics from individual components of information systems (hardware, software, data, procedures, people) to information security issues and ethics involving information systems. Other topics include introductions to artificial intelligence, data analytics and data visualization/design. Students will be exposed to and understand the information systems that they will be using in their career and life.

INF 305 Windows Server Administration   (3 Credits)
This course continues the Microsoft certification preparation process. Students in the course will explore the Microsoft Windows Server Operating System from an administrative view. Topics covered include: advanced installation procedures, drive configuration and maintenance, server-level object management (Active Directory), resource control, server administration, server environment settings, server security, and disaster recovery techniques. Upon completion of the course students may elect to complete several possible exams for certification.

Eligibility Rules: Has completed or currently enrolled in INF302

INF 306 Android Application Development   (3 Credits)
This is an introductory course for Android OS application development. Students will learn application standards along with how to create, edit, maintain, and publish applications using an Android development environment.

Eligibility Rules: Junior Level Standing - 60 Semester Units

INF 312 Web Design for Non-Majors   (3 Credits)
This course introduces students to basic web technologies. Throughout the course students are introduced to planning and designing effective web pages; implementing web pages by writing HTML and CSS code; enhancing web pages with the use of current web design technologies, page layout techniques, text formatting, graphics, images, and multimedia; and producing a functional, single and multi-page website using current web platforms.

INF 315 Enterprise Resource Planning   (3 Credits)
This course is designed to explore fundamental organizational processes and how they interact digitally. Emphasis is placed on the tools and techniques that a project leader and systems analyst would use to analyze, design and document an information system. The course will also emphasize the importance of various skills, which the systems analyst should possess including communication, problem solving and project management.

Eligibility Rules: Has completed or currently enrolled in INF304

INF 320 Electronic Commerce   (3 Credits)
This course provides a broad coverage of key business and technology elements for creating and maintaining an electronic commerce site. Current issues in electronic commerce infrastructure, security options, management techniques, marketing strategies, and payment systems are presented and discussed. The course will provide case studies to demonstrate successful implementation of electronic storefronts.

Eligibility Rules: Junior Level Standing - 60 Semester Units

INF 322 Topics in Informatics + (1-3 Credits)
Course is designed to provide academic credit for a number of different areas in the information networking and telecommunications department. The student will study one particular topic in depth.

INF 330 Business Intelligence   (3 Credits)
This course provides conceptual and applied knowledge in techniques to visualize, process, and use data to support and enhance decision-making in business. Students gain practical experience in using BI tools and technologies, and apply design principles for creating intelligent solutions to realistic business problems.

INF 335 Collaboration Systems   (3 Credits)
Information Systems today not only provide information to users, but also facilitate virtual interaction, content management, and storage solutions. Through the use of audio, video, workflow control, and version management, collaboration systems can be the key to the success of an organization. By implementing these technologies, this course focuses on networking, virtual meetings, information sharing, and knowledge management.

INF 336 Electronic Newsroom Operation + (3 Credits)
This course focuses on the content creation of electronic news, public affairs programming, and sports. It serves as a laboratory class for applications of theories and skills developed in other INF courses.

Eligibility Rules: Has completed or currently enrolled in INF140

INF 337 Multi-Media Reporting   (3 Credits)
This course focuses on the theory and practice of writing video news. As reporters for the Tiger Media Network, students will master some basics of video news writing, while also practicing news reporting for all digital platforms and sharpening their skills with on-air performance, with video recording and editing, as well as with audio recording and editing. (3 Credit Hours)

In this class you will refine your journalistic skills by:

- Meeting class deadlines.

- Practicing news skills via various exercises.

- Producing video news stories that are also adapted for print and audio media.

INF 340 Media Performance   (3 Credits)
Presents fundamentals of announcing, including microphone techniques, voice use, pronunciation, and interpretation of copy.

INF 345 Electronic Game Theory and Practice   (3 Credits)
Study of the physical, social and psychological impacts of playing electronic games. Course provides students an opportunity to learn game play for one game title as part of the course and then to reflect upon their experience as it may pertain to the academic concepts studied in the course. Students will also learn about research relating to electronic game play in a variety of contexts which may include, gaming addiction, video game violence, physical and social aspects of game play as well as positive and negative cognitive impacts. Game title may vary by semester.

INF 346 Beginning Video Production   (3 Credits)
The student is introduced to the techniques of video production including practical application of instruction.

Eligibility Rules: Has completed or currently enrolled in INF140

INF 348 Beginning Audio Production   (3 Credits)
The study of audio production and the integration of technology-based techniques for the purpose of designing, implementing and producing effective and attractive audio presentations. Course material is targeted toward information networking and communication majors or those disciplines which utilize electronic media as communication tools.

INF 349 Convergent Media Lab + (3 Credits)
Presentation of television production and operations experience involving students in studio and remote productions through the operation of the access channels of Hays Cable television and the internet. (May be taken two semesters.)

Eligibility Rules: Has completed or currently enrolled in INF140, INF240, INF346, and INF348

INF 350 Sports Announcing   (3 Credits)
Students will learn the basic principles of sports broadcasting including play-by-play preparation, sports anchoring, and interviewing. Students should also gain an overview of the daily responsibilities of a sports director as well as industry expectations.

INF 353 Cloud Computing Fundamentals   (3 Credits)
This course will explore the concept of cloud computing, and is the first of the Amazon Web Services courses. The Cloud Computing Fundamentals course will begin with an introduction of Linux and Virtualization, and then expand on the concepts of cloud computing with Amazon Web Services.

INF 360 Programming with Python   (3 Credits)
This is an introductory course for programming with Python. This class introduces the basic concepts and practices of computer programming for beginners. Python is a popular and versatile programming language. Python syntax and structure is designed to be easy to learn and understand. Learning Python prepares students for various technology-related tracks including, but not limited to, Web and Mobile Development, Management Information Systems, and Networking. This class provides opportunity to learn and practice programming skills in a creative hands-on environment.

INF 393 Internetworking III   (3 Credits)
This course will first review concepts covered in CCNA semesters one and two in preparation to take the CCENT certification exam. The course will then continue to expand on internetworking topics, specifically presenting a comprehensive overview of advanced routing and switching concepts associated with OSPF, EIGRP, STP, and VTP for both IPv4 and IPv6 networks. Additional concepts covered include implementing DHCP and DNS operations. In this course students continue to expand their understanding of internetworking through both theoretical discussion of and handson experience with networking concepts.

Eligibility Rules: Has completed or currently enrolled in INF292

INF 394 Internetworking IV   (3 Credits)
In this course students will continue to build their skills and knowledge of internetworking. Introduced in this course are network technologies along with network services found in complex networks. Students will continue to expand their understanding of internetworking through both theoretical discussion of and hands-on experience with networking concepts. Specific topics covered include: WAN technologies, network architecture, the hierarchial network design model, virtual private networks (VPNs), broadband internet connections, as well as network monitoring operations and tools. This is the second of two courses that align with the objectives of Cisco's Interconnecting Devices Part 2 (ICND2) certification examination. Collectively, the four Internetworking courses cover the objectives for Cisco's CCNA Route and Switch certification.

Eligibility Rules: Has completed or currently enrolled in INF393

INF 399 Informatics Elective (1-12 Credits)
This course is designed to receive non-equivalent elective transfer credit.

INF 405 Research Methods in Informatics   (3 Credits)
This course studies information gathering and how quantitative and qualitative research methods are used in the electronic media, computer networking, and telecommunications industries.

Eligibility Rules: Has completed or currently enrolled in INF300

INF 410 Virtualization Concepts   (3 Credits)
An introductory course, Virtualization Concepts will explore the many facets of system virtualization, specifically examining the integration of Information and Communications Technology (ICT) with both desktop and datacenter virtualization using commercial and open-source solutions. This is a complementary course to the Virtualized Infrastructure course and Cloud Computing Fundamentals course.

INF 420 Social Issues and Informatics   (3 Credits)
A sociological and cultural approach to the forces which have shaped and continue to shape information networking and telecommunications.

INF 430 Technology Innovation and Entrepreneurial Leadership   (3 Credits)
This course is devoted to studying the role of leadership in information networking. The prime focus is on how to facilitate meaningful communication, develop organizational missions, and establish realistic goals and objectives using contemporary leadership theories and practices appropriate to information networking.

Eligibility Rules: Has completed or currently enrolled in INF300

INF 472 Readings in Informatics + (1-3 Credits)
Special study by the student in a field of particular concentration.

INF 473 Problems in Informatics + (1-4 Credits)
Special problems encountered by the student in a field of concentration.

INF 476 Apprenticeship in Informatics + (1-6 Credits)
Course is designed to provide practical experience in teaching and administration of information networking and telecommunications.

INF 479 Internship in Informatics   (1-6 Credits)
The internship is designed to supplement classroom instruction by providing the student with the opportunity to participate in a professional environment. It is considered a final stage of undergraduate coursework in information networking and telecommunications. The practical experience obtained, combined with the theoretical and application training in traditional coursework, promotes the development of a well-rounded and professionaly prepared individual.

Eligibility Rules: Permission for INF479

INF 490 Capstone Seminar in Informatics   (3 Credits)
This is an advanced course that studies information network theory through case study, application, and on-site observation. Emphasis is placed on studying actual information networking problems encountered in organizations and communities. Field work and compilation of the student's portfolio is required as part of the course.

Eligibility Rules: Senior Level Standing - 90 Semester Units

INF 601 Advanced Programming with Python   (3 Credits)
In this project-based class, students who are already familiar with Python, will learn more advanced Python programming and techniques. Students will learn how to utilize both native and third-party Python libraries, robust development tools, and current frameworks to develop efficient solutions to challenges often found in the computing field.

Eligibility Rules: Has completed or currently enrolled in INF360

INF 601G Advanced Programming with Python   (3 Credits)
In this project-based class, students who are already familiar with Python, will learn more advanced Python programming and techniques. Students will learn how to utilize both native and third-party Python libraries, robust development tools, and current frameworks to develop efficient solutions to challenges often found in the computing field.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 603 Big Data Analytics   (3 Credits)
This course is an introductory course into the large world of big data analytics. Students will learn how big data is created, processed, and analyzed into useful information and visualization. This course is designed to provide a student with a foundational knowledge of big data analytics and provide a basis for future growth into more technical areas of big data and data analytics.

INF 603G Big Data Analytics   (3 Credits)
Analysis and design of large integrated data bases. Design alternatives. Logical and physical representation of data. Storage and retrieval mechanisms and languages. Survey of existing systems. Roles of the database manager and analyst.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 604 Data Analytics I   (3 Credits)
This is an introductory course into the world of Data Analytics. Data Analytics I, as a course, is the combination of statistical analysis, decision making, and information manipulation to explore datasets and find solutions. Students will be exposed to common data analytics procedures and processes during this course.

Eligibility Rules: Has competed INF101 or INF304

INF 604G Data Analytics I   (3 Credits)
This is an introductory course into the world of Data Analytics. Data Analytics I, as a course, is the combination of statistical analysis, decision-making, and information manipulation in order to explore datasets and find solutions. Students will be exposed to common data analytics procedures and processes during this course.

Eligibility Rules: Graduate Standing

INF 605 Principles of Computer Security and Forensics   (3 Credits)
This course addresses the rapidly emerging area of computer security and forensics. Topics covered will include security concepts, cryptography, public key infrastructure, standards and protocols, impact of physical and network security, infrastructure security, wireless and instant messaging, instruction detection, risk, change, and privilege management and computer forensics dealing with security and law. Course includes the learning requirements for certifications in the ComTIA Security Plus, the (ISC) 2 SSCP, and NSTISSC 4011 Examinations.

INF 605G Principles of Computer Security and Forensics   (3 Credits)
This course addresses the rapidly emerging area of computer security and forensics. Topics covered will include security concepts, cryptography, public key infrastructure, standards and protocols, impact of physical and network security, infrastructure security, wireless and instant messaging, instruction detection, risk, change, and privilege management and computer forensics dealing with security and law. Course includes the learning requirements for certifications in the ComTIA Security Plus, the (ISC) 2 SSCP, and NSTISSC 4011 Examinations.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 610 Public Policy, Law, Ethics in Telecommunications   (3 Credits)
This course addresses the regulation of computers networks, the telecommunications industries, and media distributors. Included is a consideration of the following: how regulation affects these industries and how developments in these industries affect public policy and society; how public policy is designated; and the moral and ethical obligations of these industries.

Eligibility Rules: Has completed or currently enrolled in ENG102

INF 610G Public Policy, Law, Ethics in Telecommunications   (3 Credits)
This course addresses the regulation of computers networks, the telecommunications industries, and media distributors. Included is a consideration of the following: how regulation affects these industries and how developments in these industries affect public policy and society; how public policy is designated; and the moral and ethical obligations of these industries.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 621 News Editing   (3 Credits)
Intensive study and application of copy editing, headline writing, page layout, and general editing principles.

Eligibility Rules: Has completed or currently enrolled in INF240

INF 621G News Editing   (3 Credits)
Intensive study and application of copy editing, headline writing, page layout, and general editing principles.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 622 Feature Writing   (3 Credits)
Study in skills and practices in writing feature articles for newspapers and magazines.

Eligibility Rules: Has completed or currently enrolled in INF240

INF 622G Feature Writing   (3 Credits)
Study in skills and practices in writing feature articles for newspapers and magazines.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 624 Media Continuity Writing   (3 Credits)
Develop creativity in writing continuity for radio, television, and the Web with emphasis on commercial and promotional writing.

Eligibility Rules: Has completed or currently enrolled in INF140

INF 624G Media Continuity Writing   (3 Credits)
Develop creativity in writing continuity for radio, television, and the Web with emphasis on commercial and promotional writing.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 625 Advanced Digital Journalism   (3 Credits)
This course provides theoretical and applied study of digital journalism. It includes experience in gathering and writing news for broadcast on campus radio station, campus television, and streaming internet distribution.

Eligibility Rules: Has completed or currently enrolled in INF240

INF 625G Advanced Digital Journalism   (3 Credits)
This course provides theoretical and applied study of digital journalism. It includes experience in gathering and writing news for broadcast on campus radio station, campus television, and streaming internet distribution.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 626 Law and Ethics in Journalism and Media   (3 Credits)
Study of the legal and ethical issues facing today's journalist, advertising specialist and/or public relations practitioner. Topics of study include: the First Amendment, libel, invasion of privacy, freedom of information laws, shield laws, fair trial/free press issues, obscenity, issues involving high school and college publications, copyright, and advertising law.

Eligibility Rules: Has completed or currently enrolled in ENG102 and INF240

INF 626G Law and Ethics in Journalism and Media   (3 Credits)
Study of the legal and ethical issues facing today's journalist, advertising specialist and/or public relations practitioner. Topics of study include: the First Amendment, libel, invasion of privacy, freedom of information laws, shield laws, fair trial/free press issues, obscenity, issues involving high school and college publications, copyright, and advertising law.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 628G Media Law and Contemporary Society   (3 Credits)
The study of the legal aspects of media and how it affects the industry as it relates to what is seen and heard, its widespread influence on the formation of contemporary media, and its role in a dynamic social structure.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 629 Media Management and Sales   (3 Credits)
Presents the problems, theories, legal responsibilities, and economics of electronic media management and sales.

Eligibility Rules: Has completed or currently enrolled in INF140

INF 629G Media Management and Sales   (3 Credits)
Presents the problems, theories, legal responsibilities, and economics of electronic media management and sales.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 633 Advanced Video Production   (3 Credits)
Emphasis is placed on the development and production of video presentations to perfect various video production techniques.

Eligibility Rules: Has completed or currently enrolled in INF346

INF 633G Advanced Video Production   (3 Credits)
Emphasis is placed on the development and production of video presentations to perfect various video production techniques.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 634 Graphics and Effects for Video and Film   (3 Credits)
This is a course focusing on advanced visual techniques in video post production. Students will develop mastery of graphic design for video and film and advanced operation of digital post production equipment. Students will understand the theory behind and have the opportunity to develop skills in post production techniques for the television, post production, and film industries.

Eligibility Rules: Has completed or currently enrolled in INF346

INF 634G Graphics and Effects for Video and Film   (3 Credits)
This is a course focusing on advanced visual techniques in video post production. Students will develop mastery of graphic design for video and film and advanced operation of digital post production equipment. Students will understand the theory behind and have the opportunity to develop skills in post production techniques for the television, post production, and film industries.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 636 Computer Editing of Video   (3 Credits)
This course introduces digital non-linear editing and includes both the history and theory of the subject and the practicalities of running a modern computer-based editing system. An intense course offering students a working knowledge of the subject, a digitally edited project for their resume reel or portfolio, and abilities that are an invaluable part of their skill set.

Eligibility Rules: Has completed or currently enrolled in INF346 and INF633

INF 636G Computer Editing of Video   (3 Credits)
This course introduces digital non-linear editing and includes both the history and theory of the subject and the practicalities of running a modern computer-based editing system. An intense course offering students a working knowledge of the subject, a digitally edited project for their resume reel or portfolio, and abilities that are an invaluable part of their skill set.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF633 or INF633G

INF 638 Intensive Video Production   (3 Credits)
Advanced study and application of electronic production techniques in the field and studio. Emphasis placed on shooting, lighting, directing, and editing of electronic news and on-location productions.

Eligibility Rules: Has completed or currently enrolled in INF633

INF 638G Intensive Video Production   (3 Credits)
Advanced study and application of electronic production techniques in the field and studio. Emphasis placed on shooting, lighting, directing, and editing of electronic news and on-location productions.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF633 or INF633G

INF 640G Advanced Media Performance   (3 Credits)
Aspects of ad lib announcing, interviewing, and television presentations are presented.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 645 Artificial Intelligence Systems and Applications   (3 Credits)
Elements of artificial intelligence systems design, development, and implementation, including expert systems, adaptive systems, natural-language processing, and pattern recognition as applied in information systems.

INF 645G Artificial Intelligence Systems and Applications   (3 Credits)
Elements of artificial intelligence systems design, development, and implementation, including expert systems, adaptive systems, natural-language processing, and pattern recognition as applied in information systems.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 650 Introduction to Human-Computer Interaction   (3 Credits)
Interactive systems design presents ideas, theories and concepts in the field of Human Computer Interaction (HCI). More specifically, the contructs of HCI are analyzed in order to develop simpler and more efficiently designed multi/ hypermedia artifacts. This course is not, however, centered around the computer as a focus of development. The faculty and students will look at the computer as a tool but with special emphasis on the human senses and how these are affected by the computer. By understanding the human role in HCI, more proficient learning and presentation strategies can be instilled in the student. The basic focus is centered on the human being in a technology-influenced environment.

INF 650G Introduction to Human-Computer Interaction   (3 Credits)
Interactive systems design presents ideas, theories and concepts in the field of Human Computer Interaction (HCI). More specifically, the contructs of HCI are analyzed in order to develop simpler and more efficiently designed multi/ hypermedia artifacts. This course is not, however, centered around the computer as a focus of development. The faculty and students will look at the computer as a tool but with special emphasis on the human senses and how these are affected by the computer. By understanding the human role in HCI, more proficient learning and presentation strategies can be instilled in the student. The basic focus is centered on the human being in a technology-influenced environment.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 651 Front End Web Development I   (3 Credits)
This course introduces concepts and practices of web development with client-side scripting languages. Students will learn the basic syntax, structure, and methods of JavaScript and how they apply to the HTML Docuement Object Model (DOM). This class is designed for students to learn and practice their programming skills in a creative and hands-on manner. At the end of this course, students will be able to develop interactive, front-end web applications.

Eligibility Rules: Has completed or currently enrolled in INF250 and INF360 or CSCI221

INF 651G Front End Web Development I   (3 Credits)
This course introduces concepts and practices of web development with client-side scripting languages. Students will learn the basic syntax, structure, and methods of JavaScript and how they apply to the HTML Docuement Object Model (DOM). This class is designed for students to learn and practice their programming skills in a creative and hands-on manner. At the end of this course, students will be able to develop interactive, front-end web applications.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 652 Database Design and Programming   (3 Credits)
This course teaches students to analyze complex business scenarios, design and create data models and create databases using SQL. Oracle SQL Developer Data Modeler and Application Express (APEX) are utilized to provide practical, hand-on engaging activities. Leveraging project-based learning techniques, students will create and work with projects which challenge them to design, implement, and demonstrate a database solution for a business or organization.

INF 652G Database Design and Programming   (3 Credits)
This course teaches students to analyze complex business scenarios, design and create data models and create databases using SQL. Oracle SQL Developer Data Modeler and Application Express (APEX) are utilized to provide practical, hands-on engaging activities. Leveraging project-based learning techniques, students will create and work with projects which challenge them to design, implement, and demonstrate a database solution for a business or organization.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 653 Back-End Web Development I   (3 Credits)
This course focuses on the design and implementation of dynamic web applications and Application Programming Interfaces (APIs) using server-side programming languages and databases included in the LAMPP (Linux, Apache, MySQL and PHP) stack. At the end of the course, students will be able to analyze the requirements, define the specifications, and develop complete Content Management Systems for a variety of sectors and purposes.

Eligibility Rules: Has completed or currently enrolled in INF651 and INF652

INF 653G Back-End Web Development I   (3 Credits)
This course focuses on the design and implementation of dynamic web applications and Application Programming Interfaces (APIs) using server-side programming languages and databases included in the LAMPP (Linux, Apache, MySQL and PHP) stack. At the end of the course, students will be able to analyze the requirements, define the specifications, and develop complete Content Management Systems for a variety of sectors and purposes.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF651G and INF652G

INF 654 Mobile Web Development + (3 Credits)
This course introduces concepts and practices of mobile web development that is platform independent. While building progressive web applications, students will learn to create offline-first experiences, audit an app's performance, debug asynchronous functions, and more. The skills to build and optimize progressive web applications is an important and highly demanded skill for mobile web developers. This class is designed for students to learn and practice their programming skills.

Eligibility Rules: Has completed or currently enrolled in INF651 and INF652

INF 654G Mobile Web Development   (3 Credits)
This course introduces concepts and practices of mobile web development that is platform independent. While building progressive web applications, students will learn to create offline-first experiences, audit an app's performance, debug asynchronous functions, and more. The skills to build and optimize progressive web applications is an important and highly demanded skill for mobile web developers. This class is designed for students to learn and practice their programming skills.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF651G and INF652G

INF 655 Front-End Web Development II   (3 Credits)
This is the advanced course for front-end web development utilizing Javascript and associated code libraries. Students will complete complex coding exercises, solve algorithms, apply problem decomposition to break large project assignements into several smaller tasks, and develop personal creative projects. This class is designed for students to learn and practice their programming skills in a creative and hands-on manner.

Eligibility Rules: Has completed or currently enrolled in INF651

INF 655G Front-End Web Development II   (3 Credits)
This is the advanced course for front-end web development utilizing Javascript and associated code libraries. Students will complete complex coding exercises, solve algorithms, apply problem decomposition to break large project assignements into several smaller tasks, and develop personal creative projects. This class is designed for students to learn and practice their programming skills in a creative and hands-on manner.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF651G

INF 656 Back-End Web Development II   (3 Credits)
The MongoDB, ExpressJS, AngularJS, and Node.js package, known as the "MEAN stack", offers a robust alternative to the traditional LAMP stack based on Apache, MySQL, and PHP. This course details advanced concepts and recent frameworks for server-side programming included in the MEAN stack, as well as several best practices for improving the design, security, integration, and scalability of web applications. At the end of the course, as a full-stack web developer, you will be able to define and implement strategic decisions for the success of versatile web platforms.

Eligibility Rules: Has completed or currently enrolled in INF653

INF 656G Back-End Web Development II   (3 Credits)
The MongoDB, ExpressJS, AngularJS, and Node.js package, known as the "MEAN stack", offers a robust alternative to the traditional LAMP stack based on Apache, MySQL, and PHP. This course details advanced concepts and recent frameworks for server-side programming included in the MEAN stack, as well as several best practices for improving the design, security, integration, and scalability of web applications. At the end of the course, as a full-stack web developer, you will be able to define and implement strategic decisions for the success of versatile web platforms.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF653G

INF 657 Mobile Web Development II   (3 Credits)
This course introduces an efficient approach to the development of native applications in the rapidly changing scenario of mobile devices. The course covers different programming environments, rapid prototyping tools, and building blocks for designing user interfaces, acquiring and processing data from device sensors (e.g., motion, localization), and interacting with web services. At the end of the course, you will be able to realize and publish native applications for specific operating systems (e.g, Android and iOS) and for cross-platform deployment scenarios.

Eligibility Rules: Has completed or currently enrolled in INF654

INF 657G Mobile Web Development II   (3 Credits)
This course introduces an efficient approach to the development of native applications in the rapidly changing scenario of mobile devices. The course covers different programming environments, rapid prototyping tools, and building blocks for designing user interfaces, acquiring and processing data from device sensors (e.g., motion, localization), and interacting with web services. At the end of the course, you will be able to realize and publish native applications for specific operating systems (e.g, Android and iOS) and for cross-platform deployment scenarios.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF654G

INF 658 Law of Cyberspace   (3 Credits)
This course is an in-depth examination of key legal issues central to the internet. This course examines internet operational issues such as copyright and fair use of images, text, video, and audio, domain name registration, trademarks, trade secrets, patents, and ISP liability. It examines regulation of the internet and key criminal and civil rights issues such as email access, pornography, and hacking. It also examines important e-commerce concepts such as digital signatures, on-line contracts, and shrink-wrap contracts.

Eligibility Rules: Has completed or currently enrolled in ENG102

INF 658G Law of Cyberspace   (3 Credits)
This course is an in-depth examination of key legal issues central to the internet. This course examines internet operational issues such as copyright and fair use of images, text, video, and audio, domain name registration, trademarks, trade secrets, patents, and ISP liability. It examines regulation of the internet and key criminal and civil rights issues such as email access, pornography, and hacking. It also examines important e-commerce concepts such as digital signatures, on-line contracts, and shrink-wrap contracts.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 660 Global Telecommunications Policy   (3 Credits)
Students will study the organization and operations of the Federal Communications Commission and other telecommunications regulators around the world. Students will also investigate the United States Communications Act of 1934 as amended by various acts, such as the Telecommunications Act of 1996. Telecommunications regulatory models in various countries will be studied and compared. Privatization and liberalization trends will also be studied.

Eligibility Rules: Junior Level Standing - 60 Semester Units

INF 660G Global Telecommunications Policy   (3 Credits)
Students will study the organization and operations of the Federal Communications Commission and other telecommunications regulators around the world. Students will also investigate the United States Communications Act of 1934 as amended by various acts, such as the Telecommunications Act of 1996. Telecommunications regulatory models in various countries will be studied and compared. Privatization and liberalization trends will also be studied.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 662 Modern Telephony   (3 Credits)
Students will study the public switched telephone network, the PSTN. Historical development of the network with introductions to telephone regulation, telephone network protocols and architecture, network design issues, traffic and queuing theory, multiplexing of voice, digital encoding of voice, XDSL systems on voice networks and expected future developments in the telephony field.

Eligibility Rules: Has completed or currently enrolled in INF292

INF 662G Modern Telephony   (3 Credits)
Students will study the public switched telephone network, the PSTN. Historical development of the network with introductions to telephone regulation, telephone network protocols and architecture, network design issues, traffic and queuing theory, multiplexing of voice, digital encoding of voice, XDSL systems on voice networks and expected future developments in the telephony field.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 664 Wireless and Cellular Systems   (3 Credits)
Students will study wireless radio communications from the basics of radio wave propagation to the complexities of cellular system design. Both stationary and mobile communications are investigated. Wireless data communications protocols for local area networking, point-to-point satellite communications, and first through third generation cellular and air interface standards are also studied.

Eligibility Rules: Has completed or currently enrolled in MATH101, MATH105, MATH110, or MATH130 or higher

INF 664G Wireless and Cellular Systems   (3 Credits)
Students will study wireless radio communications from the basics of radio wave propagation to the complexities of cellular system design. Both stationary and mobile communications are investigated. Wireless data communications protocols for local area networking, point-to-point satellite communications, and first through third generation cellular and air interface standards are also studied.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 670 Workshop in Informatics + (1-3 Credits)
Designed to give concentrated training in an area of information networking and telecommunications.

INF 670G Workshop in Informatics + (1-3 Credits)
Designed to give concentrated training in an area of information networking and telecommunications.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 671 Linux in Networking   (3 Credits)
This course is designed to give students an introduction to the Linux operating system in networking including Linux's utilities, filesystem, shell, KDE and GNOME.

INF 671G Linux in Networking   (3 Credits)
This course is designed to give students an introduction to the Linux operating system in networking including Linux's utilities, filesystem, shell, KDE and GNOME.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 672 Advanced Linux in Networking   (3 Credits)
This course is designed to give students an introduction to the advanced topics of Linux operating system in networking including shell, programming tools, and system administration.

Eligibility Rules: Has completed or currently enrolled in INF671

INF 672G Advanced Linux in Networking   (3 Credits)
This course is designed to give students an introduction to the advanced topics of Linux operating system in networking including shell, programming tools, and system administration.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF671 or INF671G

INF 674 Graduate Independent Studies in Informatics + (1-3 Credits)
The student will conduct directed, independent work in Computer Information Systems topics not treated in depth in courses regularly offered by the department. The course will not substitute for any departmental theory course. Permission of Department Chair is required before enrollment. See advisor for details.

Eligibility Rules: Senior Level Standing - 90 Semester Units

INF 674G Graduate Independent Studies in Informatics + (1-3 Credits)
The student will conduct directed, independent work in Computer Information Systems topics not treated in depth in courses regularly offered by the department. The course will not substitute for any departmental theory course. Permission of Department Chair is required before enrollment. See advisor for details.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 676 Graduate Apprenticeship in Informatics + (1-3 Credits)
The student will serve as a tutorial aide, research, etc. Permission of the Department Chair is required before enrollment. See advisor for details.

Eligibility Rules: Senior Level Standing - 90 Semester Units

INF 676G Graduate Apprenticeship in Informatics + (1-3 Credits)
The student will serve as a tutorial aide, research, etc. Permission of the Department Chair is required before enrollment. See advisor for details.

INF 678 Seminar in Informatics + (3 Credits)
Seminar courses are designed to provide in-depth study of specific subject matters in information networking and telecommunications. Seminar courses will vary according to the needs of graduate students. Courses will include substantial interaction between students and students and faculty.

Eligibility Rules: Permission for INF678

INF 678G Seminar in Informatics + (3 Credits)
Seminar courses are designed to provide in-depth study of specific subject matters in information networking and telecommunications. Seminar courses will vary according to the needs of graduate students. Courses will include substantial interaction between students and students and faculty.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 680 Network Architecture and Data Communications I   (3 Credits)
Students in this course will study the concepts and theories relevant to data communications for global internetworking. In the course students will study topics that include the OSI model for internetworking, physical transmisison media, electronic and electromagnetic signaling, analog and digitial signaling, line coding, link layer protocols and local addressing, network layer protocols and global addressing, routing and queuing theory, LAN and WAN protocols, and internet transmission protocols. This course is part of the 12-hour Certificate in Internetworking offered by the Department of INT, and it is a prerequisite to Network Architecture and Data Communications II. These two courses represent the theoretical side of the certificate program. This is a required course for department majors in the Computer Networking emphasis. The course is also part of the Justice Studies Information Networking Certificate.

Eligibility Rules: Has completed or currently enrolled in MATH101, MATH105, MATH110, or MATH130 or higher

INF 680G Network Architecture and Data Communications I   (3 Credits)
Students in this course will study the concepts and theories relevant to data communications for global internetworking. In the course students will study topics that include the OSI model for internetworking, physical transmisison media, electronic and electromagnetic signaling, analog and digitial signaling, line coding, link layer protocols and local addressing, network layer protocols and global addressing, routing and queuing theory, LAN and WAN protocols, and internet transmission protocols. This course is part of the 12-hour Certificate in Internetworking offered by the Department of INT, and it is a prerequisite to Network Architecture and Data Communications II. These two courses represent the theoretical side of the certificate program. This is a required course for department majors in the Computer Networking emphasis. The course is also part of the Justice Studies Information Networking Certificate.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 681 Network Architecture and Data Communications II   (3 Credits)
Students in this course will study internetworking services that reside in the upper layers of the OSI model, and advanced concepts not included in Network Architecture and Data Communicaitons I. Topics may include but not limited to: internetwork design, internetwork security, synchronous optical network (SONET), internet control message protocol (ICMP), simple network management protocol (SNMP), point to point protocol, advanced routing protocols, and other internetworking services.

Eligibility Rules: Has completed or currently enrolled in INF291 or INF680

INF 681G Network Architecture and Data Communications II   (3 Credits)
Students in this course will study internetworking services that reside in the upper layers of the OSI model, and advanced concepts not included in Network Architecture and Data Communicaitons I. Topics may include but not limited to: internetwork design, internetwork security, synchronous optical network (SONET), internet control message protocol (ICMP), simple network management protocol (SNMP), point to point protocol, advanced routing protocols, and other internetworking services.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 683G Projects in Journalism + (1-3 Credits)
(Total of 6 hrs. may be accumulated.) Specialized independent study in areas of student's choice. Topics available with approval of adviser and instructor.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 684 Foundations of Information Systems Security   (3 Credits)
This course is intended as an introduction of the many facets of Information Security. It approaches information security from a holistic perspective and emphasizes that security encompasses more than just hardware and software. The course provides an introduction to the technological tools used to protect information including software, hardware, and network tools. It also addresses protocols, processes, human systems, security management practices, and other non-technological elements. This course introduces the upper division/ graduate sequence in Information Assurance.

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This course is intended as an introduction of the many facets of Information Security. It approaches information security from a holistic perspective and emphasizes that security encompasses more than just hardware and software. The course provides an introduction to the technological tools used to protect information including software, hardware, and network tools. It also addresses protocols, processes, human systems, security management practices, and other non-technological elements. This course introduces the upper division/ graduate sequence in Information Assurance.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 685 Fundamentals of Network Security   (3 Credits)
This is a course focusing on security concepts as they relate to internetworks, including: security policy design and management, security technologies and solutions, firewalls, hands-on implementation using firewalls, AuthenticationAuthorization-Accounting (AAA), and secure VPNS.

Eligibility Rules: Has completed or currently enrolled in INF292

INF 685G Fundamentals of Network Security   (3 Credits)
This is a course focusing on security concepts as they relate to internetworks, including: security policy design and management, security technologies and solutions, firewalls, hands-on implementation using firewalls, AuthenticationAuthorization-Accounting (AAA), and secure VPNS.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 686 Network Security Firewalls   (3 Credits)
This course focuses on network security concepts as they relate to the edge protection of internetwork. Material covered will include: protocol-based security technologies, hardwarebased firewall security appliances and their use with Authentication-Authorization-Accounting (AAA), and intrusion detection. Additionally, hardware-based security appliance Virtual Private Network configuration and implementation as well as firewall redundancy, maintenance and management will be covered.

Eligibility Rules: Has completed or currently enrolled in INF292

INF 686G Network Security Firewalls   (3 Credits)
This course focuses on network security concepts as they relate to the edge protection of internetwork. Material covered will include: protocol-based security technologies, hardwarebased firewall security appliances and their use with Authentication-Authorization-Accounting (AAA), and intrusion detection. Additionally, hardware-based security appliance Virtual Private Network configuration and implementation as well as firewall redundancy, maintenance and management will be covered.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 690 Virtualized Infrastructure   (3 Credits)
This course introduces students to concepts associated with virtualized infrastructure at the enterprise level. Introducing a variety of technologies, students will explore the benefits of virtualization as it pertains to the data center. Students will also gain valuable hands-on experience through a number of laboratory exercises installing, deploying, configuring, and managing the component resources of a VMware vSphere virtualized infrastructure environment.

Some of the VMware technologies students will gain experience working with include ESXi, vCenter Server, vSphere Client, Virtual Storage and vMotion.

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Some of the VMware technologies students will gain experience working with include ESXi, vCenter Server, vSphere Client, Virtual Storage and vMotion.

INF 695 Advanced Routing   (3 Credits)
Students will study the theory and application of advanced routing protocols for internetworking. This course explores the operation of border gateway protocol (BGP), enhanced interior gateway routing protocol (EIGRP) and open shortest path first (OSPF). Network scalability issues and solutions, security and management issues related to advanced routing topics will also be studied. This is one of the four course series that prepares a student for the Cisco Certified Network Professional (CCNP) certification.

Eligibility Rules: Has completed or currently enrolled in INF292

INF 695G Advanced Routing   (3 Credits)
Students will study the theory and application of advanced routing protocols for internetworking. This course explores the operation of border gateway protocol (BGP), enhanced interior gateway routing protocol (EIGRP) and open shortest path first (OSPF). Network scalability issues and solutions, security and management issues related to advanced routing topics will also be studied. This is one of the four course series that prepares a student for the Cisco Certified Network Professional (CCNP) certification.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 696 Securing Converged WANs   (3 Credits)
Students will develop their knowledge and skills necessary to secure and expand the reach of an enterprise network to teleworkers and remote sites with focus on securing remote access networks and virtual private networks. Topics will include the hierarchical network model for remote access networks, teleworker configuration and secure access, frame mode MPLS, site-to-site IPSEC VPNs, Automated VPN service considerations, strategies used to mitigate network attacks relating to remote access networks, device hardening and firewall features supporting remote access networks. This is one of the four courses that prepares a student for the Cisco Certified Network Professional (CCNP) certification.

Eligibility Rules: Has completed or currently enrolled in INF292

INF 696G Securing Converged WANs   (3 Credits)
Students will develop their knowledge and skills necessary to secure and expand the reach of an enterprise network to teleworkers and remote sites with focus on securing remote access networks and virtual private networks. Topics will include the hierarchical network model for remote access networks, teleworker configuration and secure access, frame mode MPLS, site-to-site IPSEC VPNs, Automated VPN service considerations, strategies used to mitigate network attacks relating to remote access networks, device hardening and firewall features supporting remote access networks. This is one of the four courses that prepares a student for the Cisco Certified Network Professional (CCNP) certification.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 697 Advanced LAN Switching   (3 Credits)
Students will expand their knowledge and will master skills in the design, operation and management of large scalable and reliable local area networks based on multilayer switching. This course includes the study and application of multilayer switching, hierarchical LAN switching design, fast ethernet and gigabit ethernet standards, study and configuration of LAN switch operating systems, and advanced VLAN operations. The course also explores ether channel, hot standby routing protocol, multicasting protocols, and security in the LAN. This is one course of the four-course series that prepares a student for the Cisco Certified Network Professional (CCNP) certification.

Eligibility Rules: Has completed or currently enrolled in INF393

INF 697G Advanced LAN Switching   (3 Credits)
Students will expand their knowledge and will master skills in the design, operation and management of large scalable and reliable local area networks based on multilayer switching. This course includes the study and application of multilayer switching, hierarchical LAN switching design, fast ethernet and gigabit ethernet standards, study and configuration of LAN switch operating systems, and advanced VLAN operations. The course also explores ether channel, hot standby routing protocol, multicasting protocols, and security in the LAN. This is one course of the four-course series that prepares a student for the Cisco Certified Network Professional (CCNP) certification.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 802 Proseminar in Informatics   (3 Credits)
This course introduces the disciplinary areas in informatics: cyber security, information assurance management, networking, web design, management information systems, enterprise management, and media studies. This course requires enrolled students to read assigned articles and be prepared to write paper reviews to each article during each week. Paper reviews assignments are assigned to help students reflect on the assigned readings as well as provide students an opportunity to improve upon written communication skills. This course also requires students to participate and encourages them to give a speech in workshops to help students learn the latest research information in informatics.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 826 Graduate Internship in Informatics   (1-6 Credits)
The internship is designed to supplement classroom instruction by providing the student with the opportunity to participate in a professional environment. It is considered the final stage of coursework in information networking and telecommunications and may serve as the culminating experience for INT/MLS graduate students.

Eligibility Rules: Permission for INF826, Graduate level

INF 850 Advanced Topics in Human-Computer Interaction   (1 Credit)
The course will explore advanced topics in human-computer interaction (HCI). By understanding the human role in HCI, informed decisions can be made regarding the selection and implementation of tools and technologies as part of a digital learning strategy. The evolution of design rules, current methodologies for assessing usability, and design-related challenges digital leaders will face are examined.

Eligibility Rules: Admission to EdS (Digital Leadership) program and graduate level

INF 851 Trends and Issues in Cybersecurity   (1 Credit)
This course is offered through the Advanced Education Programs department, which is nationally

accredited by CAEP. Fort Hays State University is accredited by the Higher Learning Commission.

This course is designed to task students with analyzing the current cybersecurity trends and practices encountered by Cybersecurity Analysts and Professionals in the field. Students will design a business impact report based on their findings and develop a contingency plan for a business/organization/institution.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 852 User Experience (UX) Design I (3 Credits)
This course introduces the fundamental principles of User Experience (UX) Design. It covers a range of topics from human-centered design to prototyping and testing. Students will learn to apply empathy in design, define user problems, explore ideation techniques, and implement effective UX solutions.

INF 872 Graduate Readings in Informatics + (1-3 Credits)
This course provides an opportunity for special study by the student in the student's field of particular concentration or interest. Readings are arranged with and supervised by a supervising faculty member.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 876 Graduate Professional Topics in Informatics + (1-3 Credits)
This course is designed to provide applied and theoretical knowledge in information networking technology application, instruction, or administration. Courses subtitles reflect specific topics. Sample uses of this course would be: INT 776 Professional Topics in INT/Web and Video Use of Macromedia Flash or INT 776 Professional Topics in INT/Configuration of Optical Networks.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 880 Management of Information Security   (3 Credits)
This course is designed to give students an introduction to management of information security. It covers 6 Ps: Planning, Policy, Programs, Protection, People and Project management. This course examines the skills to identify and prioritize information assets and threats to information assets. The course will also examine the techniques to define an information security strategy and architecture, and to plan for and respond to intruders in an information system. Course work will include the study of legal and public relations implications of security and privacy issues. Additional discussion will be given to a disaster recovery plan for recovery of information assets after an incident.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 885 Information Risk Management   (3 Credits)
This course provides an in-depth study of the technology solutions required to sustain Risk Management and Disaster Recovery operations in an enterprise networking infrastucture environment. This course will examine risk assessment methodologies to identify risks and the processes involved in choosing to avoid, transfer, mitigate or accept those risks. The course will also examine the techniques and technologies to maximize the likelihood of continued business operations of IT systems in the case of a disruption or a major disaster. Course work will include the study of Risk and Business Impact Assessment (BIA), disaster response and recovery strategies, and business continuity planning and recovery plan development. Additional discussions will be given to the surveying of appropriate and current technologies and techniques.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF880

INF 890 Graduate Research Methods in Informatics   (3 Credits)
This course introduces graduate students to a range of research tools. It is an immersion course designed to support students in developing graduate research projects.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

INF 891 Graduate Capstone Seminar in Informatics   (3 Credits)
This is a culminating course for students seeking a graduate degree from the Department of Informatics. It is applicable for all master programs within the Department of Informatics. This course consists of a structured seminar aimed at allowing students to reflect upon experiences gained during the Cyber Security, Information Assurance Management, Computer Networking and Telecommunications, Web Development, or other concentrations area in Informatics, and synthesize that knowledge and experience in the form of a Capstone project. Students are required to complete a significant project and research paper writer at the master's degree level. The student will work very closely with his/her advisor/professor on the project. This project has a tight schedule and must be approved by the reviewing committee for the student to successfully pass this course.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF890

INF 892 Capstone - Computer Networking   (3 Credits)
This is a culminating course for students seeking a graduate degree from the Department of Informatics. It is applicable for all master programs within the Department of Informatics. This course consists of a structured seminar aimed at allowing students to reflect upon experiences gained during the Computer Networking concentration area in Informatics, and synthesize that knowledge and experience in the form of a capstone project. Students are required to complete a significant project and research paper writer at the master's degree level. The student will work very closely with his/her advisor/professor on the project. This project has a tight schedule and must be approved by the reviewing committee for the student to successfully pass this course.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF890

INF 893 Capstone - Cybersecurity   (3 Credits)
This is a culminating course for students seeking a graduate degree from the Department of Informatics. This course consists of a structured seminar aimed at allowing students to reflect upon experiences gained during the cybersecurity concentration area in Informatics, and synthesize that knowledge and experience in the form of a capstone project. Students are required to complete a significant project and research paper writer at the master's degree level. The student will work very closely with his/her advisor/professor on the project. This project has a tight schedule and must be approved by the reviewing committee for the student to successfully pass this course.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF890

INF 894 Capstone - Information Assurance   (3 Credits)
This is a culminating course for students seeking a graduate degree from the Department of Informatics. This course consists of a structured seminar aimed at allowing students to reflect upon experiences gained during the Information Assurance concentration area in Informatics, and synthesize that knowledge and experience in the form of a capstone project. Students are required to complete a significant project and research paper writer at the master's degree level. The student will work very closely with his/her advisor/professor on the project. This project has a tight schedule and must be approved by the reviewing committee for the student to successfully pass this course.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF890

INF 895 Capstone - Information Systems   (3 Credits)
This is a culminating course for students seeking a graduate degree from the Department of Informatics. This course consists of a structured seminar aimed at allowing students to reflect upon experiences gained during the Information Systems concentration area in Informatics, and synthesize that knowledge and experience in the form of a capstone project. Students are required to complete a significant project and research paper writer at the master's degree level. The student will work very closely with his/her advisor/professor on the project. This project has a tight schedule and must be approved by the reviewing committee for the student to successfully pass this course.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF890

INF 896 Capstone - Digital Cinema   (3 Credits)
This is a culminating course for students seeking a graduate degree from the Department of Informatics. This course consists of a structured seminar aimed at allowing students to reflect upon experiences gained during the Digital Cinema concentration area in Informatics, and synthesize that knowledge and experience in the form of a capstone project. Students are required to complete a significant project and research paper writer at the master's degree level. The student will work very closely with his/her advisor/professor on the project. This project has a tight schedule and must be approved by the reviewing committee for the student to successfully pass this course.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF890

INF 897 Capstone - Web and Mobile Application Development   (3 Credits)
This is a culminating course for students seeking a graduate degree from the Department of Informatics. This course consists of a structured seminar aimed at allowing students to reflect upon experiences gained during the Web and Mobile Application Development concentration area in Informatics, and synthesize that knowledge and experience in the form of a capstone project. Students are required to complete a significant project and research paper writer at the master's degree level. The student will work very closely with his/her advisor/professor on the project. This project has a tight schedule and must be approved by the reviewing committee for the student to successfully pass this course.

Eligibility Rules: Graduate level and has completed or currently enrolled in INF890

Management Information Systems

MIS 199 Management Information Systems Elective (1-12 Credits)
This course is designed to receive non-equivalent elective transfer credit.

MIS 200 Elements of Statistics   (3 Credits)
Distributions, measures of central tendency and dispersion, sampling methods, hypothesis testing, interval estimation, correlation, and regression. Emphasis is placed on effective use of computer technology for analysis, interpretation, and presentation of various types of data.

Eligibility Rules: Has completed INF101, MATH110

MIS 201 Business Software Development I   (3 Credits)
An introductory course designed to introduce students to the complexities of business software development. Solving logical, business-related problems and applying programming techniques are the main objectives of the course.

MIS 203 Topics in Computer Information Systems   (1-3 Credits)
Course will provide in-depth study of a particular topic in the study of computer information systems. Course title and topic of student will be displayed in the class schedule.

MIS 215 Professional and Ethical Standards in MIS   (3 Credits)
This course is a study of various business information systems initiatives and how information technology supports those initiatives. The premise for this approach is that business information systems initiatives should drive information technology. Social, legal, and ethical awareness in the study of information technology will be emphasized. Issues such as privacy, ownership, crime, responsibility, and risk are covered while concomitantly reinforcing information systems technical concepts.

Eligibility Rules: Has completed or currently enrolled in INF101

MIS 300 Business Process Analysis   (3 Credits)
This course includes an introduction to the basic concepts of a process and identification of the various process types and As-Is models. The course covers the process of analyzing the As-Is model using Six Sigma concepts to identifying process improvement areas toward creating To-Be models. Process modeling best practices and hands-on exercises which apply quality control and improvement are included. At the end of the course, students will be able to identify processes, analyze and suggest process improvements to run an organization effectively.

Eligibility Rules: Junior Level Standing - 60 Semester Units

MIS 301 Business Software Development   (3 Credits)
This course introduces students to a complex programming environment and object creation/modification. Students will learn how to apply information solutions in commom business scenarios using a standardized, high-demand programmming environment.

Eligibility Rules: Has completed or currently enrolled in INF360

MIS 305 Business Data Management   (3 Credits)
Data types and their relation to sequence structures, including lists, arrays, trees, records, abstract and opaque types. Introduction to character and symbolic data.

MIS 399 Management Information Systems Elective (1-12 Credits)
This course is designed to receive non-equivalent elective transfer credit.

MIS 602 Information Systems Design and Development   (3 Credits)
his course is designed to explore fundamental organizational processes and how they interact digitally. Emphasis is placed on the tools and techniques that a project leader and systems analyst would use to analyze, design and document an information system. The course will also emphasize the importance of various skills, which the systems analyst should possess including communication, problem solving and project management.

MIS 602G Information Systems Design and Development   (3 Credits)
This course is designed to explore fundamental organizational processes and how they interact digitally. Emphasis is placed on the tools and techniques that a project leader and systems analyst would use to analyze, design and document an information system. The course will also emphasize the importance of various skills, which the systems analyst should possess including communication, problem solving and project management.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

MIS 610 Culminating Project or Experience in MIS   (3 Credits)
Development of a significant computer application in a realistic setting using modern tools and methods.

Eligibility Rules: Has completed MIS602

MIS 610G Culminating Project or Experience in MIS   (3 Credits)
Development of a significant computer application in a realistic setting using modern tools and methods.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

MIS 620 Information Center Functions   (3 Credits)
Information-based support systems and information system requirements: the information center function and dissemination of information processing methods.

Eligibility Rules: Has completed MIS602

MIS 620G Information Center Functions   (3 Credits)
Information-based support systems and information system requirements: the information center function and dissemination of information processing methods.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

MIS 625 Business Intelligence Technology   (3 Credits)
This course provides an introduction to Business Intelligence, including the processes, methodologies, infrastructure, and current practices used to transform business data into useful information and support business decision-making. Business Intelligence requires foundation knowledge in data storage and retrieval, thus this course will review logical data models for both database management systems and data warehouses. Students will learn to extract and manipulate data from these systems and asses security-related Issues. Data mining, visualization, and statistical analysis along with reporting options such as management dashboards and balanced scorecards will be covered. Technologies utilized in the course include SAP Business Warehouse, SAP Business Objects, Crystal Reports, and RapidMiner.

Eligibility Rules: Has completed MATH250

MIS 625G Business Intelligence Technology   (3 Credits)
This course provides an introduction to Business Intelligence, including the processes, methodologies, infrastructure, and current practices used to transform business data into useful information and support business decision-making. Business Intelligence requires foundation knowledge in data storage and retrieval, thus this course will review logical data models for both database management systems and data warehouses. Students will learn to extract and manipulate data from these systems and asses security-related Issues. Data mining, visualization, and statistical analysis along with reporting options such as management dashboards and balanced scorecards will be covered. Technologies utilized in the course include SAP Business Warehouse, SAP Business Objects, Crystal Reports, and RapidMiner.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

MIS 640 Advanced Management Information Systems   (3 Credits)
The study of the implications of information systems in modern organizations; advanced consideration in the evaluation, selection, and administration of management information systems; and contemporary issues systems experts must address in the digital society.

Eligibility Rules: Has completed MIS304

MIS 640G Advanced Management Information Systems   (3 Credits)
The study of the implications of information systems in modern organizations; advanced consideration in the evaluation, selection, and administration of management information systems; and contemporary issues systems experts must address in the digital society.

MIS 650G Networks and Data Communications   (3 Credits)
Local and wide-area network systems, including hardware, software, and systems-design considerations; configuration management and control.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

MIS 672 Readings in Management Information Systems + (1-3 Credits)
Purpose of the course is to provide an opportunity for in-depth reading and study of the field of computer information systems. This course will not substitute for any departmental theory course. Permission of Department Chair is required before enrollment. See advisor for details.

Eligibility Rules: Permission for MIS672, Senior Standing

MIS 672G Readings in Management Information Systems + (1-3 Credits)
Purpose of the course is to provide an opportunity for in-depth reading and study of the field of computer information systems. This course will not substitute for any departmental theory course. Permission of Department Chair is required before enrollment. See advisor for details.

MIS 673 Problems in Management Information Systems + (1-3 Credits)
The student will work directed problems related to computer information systems. This course will not substitute for any departmental theory course. Permission of Department Chair is required before enrollment. See advisor for details.

Eligibility Rules: Permission for MIS673, Senior Standing

MIS 673G Problems in Management Information Systems + (1-3 Credits)
The student will work directed problems related to computer information systems. This course will not substitute for any departmental theory course. Permission of Department Chair is required before enrollment. See advisor for details.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

MIS 675 Seminar in Management Information Systems + (1-3 Credits)
The purpose of the seminar is to bring together a small group of students for intensive study and discussion of Computer Information Systems topics the course will not substitute for any departmental theory course.

MIS 675G Seminar in Management Information Systems + (1-3 Credits)
The purpose of the seminar is to bring together a small group of students for intensive study and discussion of Computer Information Systems topics the course will not substitute for any departmental theory course.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

MIS 677 Internship + (1-6 Credits)
The student will perform meaningful, professionally related work. A job in the student's major must be obtained in advance and be approved by the advisor and the Department Chair prior to enrollment. See advisor for details.

Eligibility Rules: Permission for MIS677, Senior Standing

MIS 677G Internship + (1-6 Credits)
The student will perform meaningful, professionally related work. A job in the student's major must be obtained in advance and be approved by the advisor and the Department Chair prior to enrollment. See advisor for details.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral

MIS 682G Advanced Office Systems   (3 Credits)
Interaction of manual and computerized components; word and text processing systems; interaction of data communications and other forms of communication; specialized managerial considerations.

Eligibility Rules: Academic level is Masters, EdS, Grad Non-Degree OR Doctoral