COMPUTER INFORMATION TECH (CIT)

- General Education Course

CIT 150 Spreadsheet and Database Apps **3 Credit hours**
Comprehensive coverage of spreadsheets and databases. Includes techniques to collect, manage, and analyze data; solve problems; and effectively communicate results for scientific research. Includes macro development and introduction to scripting.
Grade Mode: Normal Grading Mode

CIT 163 Intro to Programming: C++ **3 Credit hours**
Concepts of software development and maintenance using C++, including syntax of the language, loops, functions, pointers, decision structures, and file processing. Proper program design using object-oriented programming techniques are emphasized.
Grade Mode: Normal Grading Mode

CIT 260 Instrumentation **3 Credit hours**
The course introduces students to modern data gathering methods, laboratory instrumentation, and programming. Focuses range from transportation development, forensics, to environmental issues.
Grade Mode: Normal Grading Mode

CIT 263 Web Programming I **3 Credit hours**
Students will learn techniques for creating advanced documents and programs for the Web using HTML, DHTML, XML, JavaScript, and PHP scripting. Students will also learn how to install and maintain a Web server.
Grade Mode: Normal Grading Mode

CIT 264 Technology Foundations **3 Credit hours**
This course introduces the student to the common hardware and technology that pervades business and society as a whole. Topics include pc's, networks, software, the internet, cellular phones, etc.
Grade Mode: Normal Grading Mode

CIT 265 C# NET Programming **3 Credit hours**
Covers the essentials for developing robust and secure applications using C#, Windows forms, and the .NET framework. Also covers ADO.NET, writing secure .NET applications and web services.
Pre-req: IST 236 or CIT 236 or CS 120.
Grade Mode: Normal Grading Mode

CIT 266 Applied C++ Programming **3 Credit hours**
Designed to teach students intermediate C++ programming through an applied approach with examples and applications. The course extends topics covered in prerequisite courses. Prior programming knowledge in any language required.
Pre-req: CIT 163 with a minimum grade of D or CS 120 with a minimum grade of D.
Grade Mode: Normal Grading Mode

CIT 280 Special Topics **1-4 Credit hours**
Grade Mode: Normal Grading Mode

CIT 281 Special Topics **1-4 Credit hours**
Grade Mode: Normal Grading Mode

CIT 282 Special Topics **1-4 Credit hours**
Grade Mode: Normal Grading Mode

CIT 283 Special Topics **1-4 Credit hours**
Grade Mode: Normal Grading Mode

CIT 285 Independent Study **1-4 Credit hours**
Independent study for selected freshmen and sophomores under supervision of faculty; may be repeated only once.
Attributes: No Textbook Required
Grade Mode: Normal Grading Mode

CIT 301 Public Service Experience **1 Credit hour**
At least 30 contact hours in a public service/volunteer experience with a group, organization or agency that offers a service to the general public. Advisor permission required.
Grade Mode: Credit/No Credit Grade Only

CIT 313 Web Programming II **3 Credit hours**
The second semester of a two course sequence on Web programming. This course focuses on server-side programming and databases. Topics covered include PHP, mySQL, web services, and security.
Pre-req: CIT 263 with a minimum grade of D.
Grade Mode: Normal Grading Mode

CIT 332 Software Engineering I **3 Credit hours**
Introduction to the industrial process of software systems development. The course covers project management and planning risk management issues; software quality and configuration issues; and processes, methods, and development tools.
Pre-req: CIT 236 or IST 236 or CS 120.
Grade Mode: Normal Grading Mode

CIT 333 Software Engineering II **3 Credit hours**
Second course in a two course sequence. Covers the system development life cycle: requirement analysis and specifications; design methods; system implementation and integration; testing; and reuse issues. Team project participation.
Pre-req: CIT 332 with a minimum grade of D or IST 332 with a minimum grade of D.
Grade Mode: Normal Grading Mode

CIT 340 Game Development I:2D **3 Credit hours**
Covers computer software industry, history and the role of a creative game development team. Students will participate in the game development process, including art, animation, programming, music, sound and writing.
Pre-req: CIT 236 or IST 236 or CS 120.
Grade Mode: Normal Grading Mode

CIT 352 Network Protocols and Admin **3 Credit hours**
This course provides students with knowledge of network terminology, structures, topologies, protocols, and inter-faces involving Local Area and Wide Area networks.
Pre-req: CIT 163 with a minimum grade of D or IST 163 with a minimum grade of D or CS 110 with a minimum grade of D.
Grade Mode: Normal Grading Mode

CIT 365 Database Management **3 Credit hours**
To understand the logical and physical design of data stored and retrieved from a relational database. Exposure to distributed databases, database administration and structured query language will also be done.
Grade Mode: Normal Grading Mode

CIT 410 Electronic Commerce **3 Credit hours**
This course examines electronic commerce. Group decision making and collaborative applications through the Internet. Develop applications that retrieve and store information in distributed databases.
Pre-req: CIT 365 with a minimum grade of D or IST 365 with a minimum grade of D and CIT 313 with a minimum grade of D.
Attributes: No Textbook Required
Grade Mode: Normal Grading Mode

CIT 413 iOS Development **3 Credit hours**
Students will learn to develop iOS applications using HTML5/PhoneGap, Objective-C, and Swift, using Apple and third-party SDKs. Also covers basic concepts for designing intuitive and usable user-interfaces.
Pre-req: CIT 265.
Grade Mode: Normal Grading Mode

CIT 414 Android Development **3 Credit hours**
Students will learn to develop Android applications using Java and the Android SDK. Course covers user interfaces, audio integration, SQLite databases, location services, sensors, and custom graphics.
Pre-req: CIT 265 with a minimum grade of D.
Attributes: No Textbook Required
Grade Mode: Normal Grading Mode

CIT 416 Advanced Web Programming **3 Credit hours**
Includes topics in XHTML, JavaScript Data Object Model, dynamic application of CSS rules to page elements, browser's support for XML, object-oriented PHP programming, server side graphics generation, web services.
Pre-req: CIT 365 with a minimum grade of D and CIT 313 with a minimum grade of D.
Grade Mode: Normal Grading Mode

CIT 440 Computer Graphics for Gaming **3 Credit hours**
Fundamental concepts dealing with the display of graphic information on semi-interactive storage tube displays. The course includes techniques for hidden line display, hidden line removal, and two- and three-dimensional transformation.
Pre-req: CIT 236 with a minimum grade of D or IST 236 with a minimum grade of D or CS 120 with a minimum grade of D.
Grade Mode: Normal Grading Mode

CIT 441 Game Development II:3D **3 Credit hours**
Covers state of the art techniques for computer game design and development with an emphasis on the 3D graphics and interaction through practical, example driven approaches of game development.
Pre-req: CIT 340 with a minimum grade of D or IST 360 with a minimum grade of D.
Attributes: No Textbook Required
Grade Mode: Normal Grading Mode

CIT 443 Game Development III: AI **3 Credit hours**
Advanced concepts of game development with a focus on artificial intelligence. AI techniques covered including A* path finding algorithm, rule-based reasoning, reinforcement learning, neural networks, genetic algorithm, knowledge representation.
Pre-req: CIT 441 with a minimum grade of D or IST 439 with a minimum grade of D.
Attributes: No Textbook Required
Grade Mode: Normal Grading Mode

CIT 446 3D Modeling and Animation **3 Credit hours**
Covers 3D modeling to create environments and character animation. Explores 3D forms within sculpture, architecture, animation and games. Includes development of simplifications, abstractions and hyper-realities for gaming.
Attributes: Digital Humanities, No Textbook Required
Grade Mode: Normal Grading Mode

CIT 447 Modeling/Simulation Dev **3 Credit hours**
Course applies fundamentals of game development to educational games or simulations within a virtual world. Explores virtual worlds, basic scripting/modeling techniques and role-playing simulations to teach any concept.
Pre-req: CIT 441 with a minimum grade of D.
Grade Mode: Normal Grading Mode

CIT 448 Mobile Game Development **3 Credit hours**
Students will work in teams to develop games for mobile devices. Emphasis on mobile development tools, techniques, cross platform development, and standard practices, using open-source software.
Pre-req: CIT 340 with a minimum grade of D.
Attributes: No Textbook Required
Grade Mode: Normal Grading Mode

CIT 466 Database Programming **3 Credit hours**
This course teaches students database programming available to relational database systems. Students will work with fourth generation languages to analyze, design and develop, and execute programs in a database environment.
Pre-req: CIT 365 or IST 365.
Attributes: No Textbook Required
Grade Mode: Normal Grading Mode

CIT 470 Internship in CIT **3 Credit hours**
Capstone course in CIT. A professionally supervised internship within the student's area of emphasis in the Computer and Information Technology major. Must be pre-approved before registering.
Attributes: Capstone Course
Grade Mode: Normal Grading Mode

CIT 480 Special Topics **1-4 Credit hours**
Grade Mode: Normal Grading Mode

CIT 481 Special Topics **1-4 Credit hours**
Grade Mode: Normal Grading Mode

CIT 482 Special Topics **1-4 Credit hours**
Grade Mode: Normal Grading Mode

CIT 483 Special Topics **1-4 Credit hours**
Grade Mode: Normal Grading Mode

CIT 485 Independent Study **1-4 Credit hours**
Independent study for selected juniors and seniors under supervision of faculty; may be repeated only once.
Attributes: No Textbook Required
Grade Mode: Normal Grading Mode

CIT 490 Capstone Project in CIT **3 Credit hours**
Capstone course in CIT. Students will plan, implement, and present a solution to a real-world problem within their emphasis demonstrating their technical and professional skills. Must be pre-approved before registering.
Attributes: Capstone Course
Grade Mode: Normal Grading Mode