Computer Information Systems Major (CINS)

Computer Programming and Database Management - Computer Information Systems Major (CINS)

The Computer Programming and Database Management - Computer Information Systems Major (CINS) focuses on the design, development, implementation, and maintenance of software used in a variety of industries.

Students gain knowledge of computer operating systems and software development using several programming languages. Students also gain knowledge of core practices in business and/or health care, depending on their focus.

Graduates earn an Associate of Applied Science degree and are prepared to enter the workforce as skilled computer programmers and systems integrators. Graduates may continue their education in a bachelor's degree program in computer science, information systems, business informatics, or business administration.

Although some required courses are available through evening and/or online classes, most of the required courses for the Computer Information Systems Major are scheduled on Monday through Friday between 8 a.m. and 5 p.m.

For more information, please contact the Center for Innovative Technologies at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (http://www.cincinnatistate.edu/academics/admission) section of the College website.

Computer Information Systems Major (CINS)

Semester 1		Lec	Lab	Credits
FYE 1XX First Year Experience Elective (**B**)		1	0	1
ENG 101	English Composition 1 (**G**)	3	0	3
XXX-XXX Mathematics Elective (**G**)		3	0	3
IT 100	Computer Programming Foundations (**T**)	2	3	3
XXX-XXX Arts/Humanities Elective (**G**)		3	0	3
Semester 2				
IT 101	Programming 1 (**T**)	2	3	3
IT 111	Database Design and SQL 1 (**B**)	2	3	3
XXX-XXX Computer Information Systems Elective 1 (**B**)		3	0	3
CPDM 210	System Analysis and Design (**T**)	2	3	3
Semester 3				
IT 102	Programming 2 (**T**)	2	3	3
XXX-XXX Computer Information Systems Elective 2 (**B**)		3	0	3
XXX-XXX Computer Information Systems Elective 3 (**B**)		3	0	3
XXX-XXX Technical Concentration Elective 1 (**T**)		2	3	3
XXX-XXX Technical Track Elective 1 (**T**)		2	3	3
Semester 4				
CPDM-XXX Experiential Learning Elective 1 (**T**)		1	40	2
XXX-XXX Technical Concentration Elective 2 (**T**)		2	3	3
Semester 5				
XXX-XXX Computer Information Systems Elective 4 (**B**)		3	0	3
XXX-XXX Technical Concentration Elective 3 (**T**)		2	3	3
XXX-XXX Technical Track Elective 2 (**T**)		2	3	3
ENG-10X English Composition Elective (**G**)		3	0	3
ECO-XXX Economics Elective (**G**)		3	0	3
Semester 6				

		1	40	2
CPDM-XXX Experiential Learning Elective 2 (**T**)				
CPDM 290	Computer Programming and Database Management Capstone (**T**)	2	3	3
Total Credits:		52	113	65

Electives

First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

Mathematics Elective

MAT 121	Technical Algebra and Geometry with Statistics	3
MAT 125	Algebra and Trigonometry	4
MAT 131	Statistics 1	3
MAT 151	College Algebra	4

English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

Arts/Humanities Elective

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130		

Economics Elective

ECO 105	Principles of Microeconomics	3
ECO 110	Principles of Macroeconomics	3

Experiential Learning Electives (Choose courses from 1 experiential learning group)

Cooperative Education Experiential Learning

CPDM 190	Cooperative Education Preparation: Computer Programming and Database Management	1
CPDM 291	Full-Time Cooperative Education 1: Computer Programming and Database Management	2
CPDM 292	Full-Time Cooperative Education 2: Computer Programming and Database Management	2

Project-Based Experiential Learning

CPDM 296	Project-Based Learning 1	2
CPDM 297	Project-Based Learning 2	2

Computer Information Systems Electives (Choose 4 courses)

ACC 101	Financial Accounting	3
ACC 102	Managerial Accounting	3
FIN 150	Business Finance	3
MGT 101	Principles of Management	3
LAW 101	Business Law	3
HIT 100	Language and Culture of Healthcare	3
HIT 105	Information Technology Systems in Healthcare	3
HIT 210	Healthcare Reimbursement	3
MCH 104	Comprehensive Medical Terminology	3

Technical Concentration Electives (Choose courses from 1 concentration)

C Programmer Concentration

SET 151	C Programming 1 (**T**)	3
SET 252	C Programming 2 (**T**)	3
SET 253	C Programming 3 (**T**)	3

Java Programmer Concentration

IT 161	Java Programming 1 (**T**)	3
IT 162	Java Programming 2 (**T**)	3
IT 262	Java Programming 3 (**T**)	3

Web Programmer Concentration

IT 117	Web Application Development 1 (**T**)	3
IT 118	Web Application Development 2 (**T**)	3
IT 218	Web Application Development 3 (**T**)	3

Technical Track Electives (Choose courses from 1 track)

Java Programming Track

IT 161	Java Programming 1 (**T**)	3
IT 162	Java Programming 2 (**T**)	3

C Programming Track 1

SET 151	C Programming 1 (**T**)	3
SET 252	C Programming 2 (**T**)	3

C Programming Track 2

SET 252	C Programming 2 (**T**)	3
SET 253	C Programming 3 (**T**)	3

IBMi Powersystem Track

CPDM 211	Business Application Development 1: RPGLE/DB2 (**T**)	4
CPDM 212	Business Application Development 2: RPGLE/DB2 (**T**)	4

Mobile Application Track

CPDM 230	Mobile Application Development (**T**)	4
CPDM 240	Emerging Technologies: Web and Mobile Applications (**T**)	4

Computer Networking Track

NETC 121	Network Communications 1 (**T**)	3
NETC 122	Network Communications 2 (**T**)	3

Web Programming Track

IT 117	Web Application Development 1 (**T**)	3
IT 118	Web Application Development 2 (**T**)	3

Database Analytics Track

IT 112	Database Design and Management (**T**)	3
IT 212	Business Intelligence, Data Warehousing, and Reporting (**T**)	3

Computer Programming and Database Management (CIS, CSD, SET)

- Ability to collect, disseminate, analyze, and apply the requirements for a specific software development project.
- Ability to write, test, and maintain software applications utilizing current and relevant programming languages.
- Ability to design and implement a normalized relational database(s) to meet the needs of the software development project.

- Ability to effectively utilize databases and database management systems to organize, store, and retrieve data for use in application software.
- Ability to create application software that is intuitive for a wide range of users.
- Ability to effectively articulate ideas, recommendations, and solutions.
- Ability to lead and/or participate effectively in teams.
- Ability to utilize appropriate resources to broaden individual knowledge and to apply the industry's latest development tools, techniques, and standards.

Faculty

Program Chair/Advisor

Professor Robert Nields, MBA
robert.nields@cincinnatistate.edu

Co-op Coordinator

Noelle Grome, MEd, MS
noelle.grome@cincinnatistate.edu

CPDM Courses

CPDM 145 Data Reporting
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course on using Crystal Reports as the tool to design and deliver reports that include tables, charts, and graphs as part of a Web-based application linked to an SQL server database.
Prerequisites: IT 101, IT 110, IT 111 or CIT 110 (minimum grade C for all)

CPDM 151 ASP.NET C# 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on the ASP.NET framework using C#. Topics include: introduction to C# language and syntax, Web forms, server controls, master pages, AJAX, and data driven applications.
Prerequisites: IT 101, IT 110, IT 111, (minimum grade C for all)

CPDM 152 ASP.NET C# 2
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of CPDM 151. Topics include: advanced ASP.NET server controls, building custom classes, Web services, designing Web applications from abstract requirements, and effectively utilizing online reference materials.
Prerequisites: CPDM 151

CPDM 190 Cooperative Education Preparation: Computer Programming and Database Management
1 Credit. 1 Lecture Hour. 0 Lab Hour.
A course that prepares students in the CPDM program for cooperative education. Topics include: using the PlacePro software system, resume development, interview skills, and cooperative education requirements, policies and procedures.
Prerequisites: None

CPDM 191 Part-Time Cooperative Education 1: Computer Programming and Database Management
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: None

CPDM 192 Part-Time Cooperative Education 2: Computer Programming and Database Management
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 191

CPDM 193 Part-Time Cooperative Education 3: Computer Programming and Database Management
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 192

CPDM 194 Part-Time Cooperative Education 4: Computer Programming and Database Management
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 193

CPDM 195 Part-Time Cooperative Education 5: Computer Programming and Database Management
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 194

CPDM 196 Part-Time Cooperative Education 6: Computer Programming and Database Management
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 195

CPDM 198 First Year Special Topics in Computer Programming and Database Management
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Computer Programming and Database Management, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.
Prerequisites: Instructor Approval

CPDM 199 First Year Independent Project in Computer Programming and Database Management
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A project related to Computer Programming and Database Management that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Computer Programming and Database Management faculty. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Instructor Approval

CPDM 210 System Analysis and Design
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on fundamental concepts in system analysis and design, within the framework of the system development life cycle. Topics include: business case analysis, requirement gathering, requirement modeling, enterprise modeling, and development strategies.
Prerequisites: None

CPDM 211 Business Application Development 1: RPGLE/DB2
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course on the IBM operating system and utilities, including DB2, Control Language, Query, SDA, and SQL. Topics include: RPGLE utilization of forms/specifications, language operation codes and special functions used to generate reports, and transaction-level file maintenance.
Prerequisites: IT 102

CPDM 212 Business Application Development 2: RPGLE/DB2
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A continuation of CPDM 211. Topics include: RPGLE procedural programming including arrays/list processing, interactive applications, and subfiles; interactive and embedded SQL; and ILE programming through service programs to address introductory cross-platform programming.
Prerequisites: CPDM 211

CPDM 230 Mobile Application Development
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course on designing and programming applications for current mobile devices. Topics include: GUI programming application structure; and considerations related to networks, databases, video, GPS sensors, and multi-touch technology.
Prerequisites: IT 102

CPDM 240 Emerging Technologies: Web and Mobile Applications
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course on emerging technologies in software and applications development for the web and mobile devices.
Prerequisites: CPDM 230

CPDM 290 Computer Programming and Database Management Capstone
3 Credits. 2 Lecture Hours. 3 Lab Hours.
Students work on a team project that demonstrates mastery of skills gained throughout their degree studies. Topics include: developing a project idea, conducting a feasibility study for the idea, gathering and analyzing requirements, and designing and implementing a solution.
Prerequisites: IT 218 or IT 262 or SET 253

CPDM 291 Full-Time Cooperative Education 1: Computer Programming and Database Management
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: None

CPDM 292 Full-Time Cooperative Education 2: Computer Programming and Database Management
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 291

CPDM 293 Full-Time Cooperative Education 3: Computer Programming and Database Management
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 292

CPDM 294 Internship 1: Computer Programming and Database Management
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 190

CPDM 295 Internship 2: Computer Programming and Database Management
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 294

CPDM 296 Project-Based Learning 1
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their first full-time project-based learning experience related to their degree. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: IT 102

CPDM 297 Project-Based Learning 2
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their second full-time project-based learning experience related to their degree. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 296 or CPDM 291

CPDM 298 Second Year Special Topics in Computer Programming and Database Management
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Computer Programming and Database Management, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.
Prerequisites: Instructor Approval

CPDM 299 Second Year Independent Project in Computer Programming and Database Management
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A project related to Computer Programming and Database Management that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Computer Programming and Database Management faculty. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Instructor Approval

IT Courses

IT 100 Computer Programming Foundations
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on fundamental concepts related to computer programming. Topics include: problem solving and developmental tools, design techniques such as flow charting and pseudo coding, and testing techniques used in programming.
Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

IT 101 Programming 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
An introduction to concepts of object-oriented software development. Topics include: application design methods, stages of software development, structures of programming, and modular programming concepts using procedures and functions.
Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

IT 102 Programming 2
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of IT 101. Topics include: object-oriented design and implementation, developing class modules, and accessing and writing to external data storage and databases-embedded SQL and stored procedures.
Prerequisites: IT 101 and IT 111

IT 103 .NET Programming 3
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of IT 102. Topics include: creating, debugging, and maintaining web-based database applications using the .NET framework.
Prerequisites: IT 102 and IT 111

IT 105 Information Technology Concepts
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on information technology fundamentals. Topics include: the internet, software, hardware, input/output (I/O) and storage, operating systems, communications and networks, database management, security, system development, programming, enterprise computing, and numbering systems. The course is delivered through online instruction only.
Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

IT 110 HTML with CSS and JavaScript
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on internet programming using HTML, CSS, and JavaScript. Topics include: HTML commands, cascading style sheets, JavaScript commands, web applications (apps), and dynamic web pages.
Prerequisites: None

IT 111 Database Design & SQL 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on fundamentals of relational database design and implementation using Microsoft SQL Server. Topics include: SQL Enterprise Manager, fundamentals of database design and normalization, data import and export, Structured Query Language (SQL), indexes and keys, views, and stored procedures.
Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

IT 112 Database Design and SQL 2
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of IT 111. Topics include: advanced stored procedures using transact SQL, user defined functions, triggers, user defined data types, full text searching, replication, database maintenance plans, and designing data models from abstract requirements.
Prerequisites: IT 111 (minimum grade C)

IT 115 Operating Systems Administration 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on the Windows operating system used on PCs. Topics include Windows utilization and management, utilities, managing disks, disaster recovery, troubleshooting, user management, productivity tools, and performance issues. This course prepares students for a Microsoft Certification exam.
Prerequisites: AFL 085 or appropriate placement test score

IT 116 Operating Systems Administration 2
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of IT 115. Topics include: managing software problems; managing virtualization; and client configuration, development, deployment, and security. This course prepares students for a Microsoft Certification exam.
Prerequisites: IT 115 (minimum grade C)

IT 117 Web Application Development 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on fundamentals of web-based application development. Topics include: current front-end and back end technologies used to develop business-related applications, and understanding infrastructure to support application development.
Prerequisites: IT 101 and IT 111

IT 118 Web Application Development 2
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of IT-117. Topics include: using current front-end and back-end technologies to develop business-related applications.
Prerequisites: IT 117

IT 140 PHP and MySQL
4 Credits. 3 Lecture Hours. 3 Lab Hours.
A course in PHP web programming with a MySQL database. Topics include: PHP language, syntax, variables, and forms; MySQL database design; connecting to a MySQL database using PHP; inserting, editing, and deleting MySQL data using PHP; and building dynamic web pages using PHP and MySQL.
Prerequisites: IT 101 and IT 110

IT 150 Logistics and Distribution Technology
3 Credits. 2 Lecture Hours. 2 Lab Hours.
A course on technologies and software used in supply chain management for freight, air, and maritime logistics operations. Topics include: barcodes, RFID, Wi-Fi tags, logistics and inventory software, high frequency tracking, and passive/active tracking.
Prerequisites: SCM 105

IT 161 Java Programming 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on fundamentals of the Java programming language. Topics include: data types, variables, basic command line input/output, decisions, loops, procedures, string manipulation, arrays, object-oriented development, event programming, and database programming.
Prerequisites: IT 101

IT 162 Java Programming 2
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of IT 161. Topics include: Java Server Pages (JSP) and complex database applications using Java and JSP.
Prerequisites: IT 161

IT 212 Business Intelligence, Data Warehousing, and Reporting
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on concepts, technologies, and techniques used to effectively consolidate, arrange, and analyze large amounts of data. Topics include: decision support systems, data mining, and how to derive business value from large amounts of data.
Prerequisites: IT 112

IT 215 Scripting
3 Credits. 2 Lecture Hours. 2 Lab Hours.
A course on task automation and configuration management using Microsoft PowerShell programming language. Topics include: modifying existing PowerShell scripts, and creating new scripts to automate common tasks.
Prerequisites: NETB 155

IT 218 Web Application Development 3
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of IT 118. Topics include: using current front-end and back-end technologies to develop complex business-related applications.
Prerequisites: IT 118

IT 220 Emerging Topics in Computer Software Development
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on current topics related to Computer Software Development such as data reporting, XML, and other new concerns.
Prerequisites: IT 101, IT 110, IT 111

IT 262 Java Programming 3
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of IT 162. Topics include: completing complex projects using Java and associated technologies.
Prerequisites: IT 162

SET Courses

SET 110 HTML for Programmers
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on client-side web development from a programmer's perspective. Topics include: HTML, JavaScript, cascading style sheets (CSS), the document object model (DOM), dynamic HTML (DHTML), and regular expressions.
Prerequisites: None

SET 151 C Programming 1
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A course on fundamentals of the C computer programming language. Topics include: decision statements, loops, functions, arrays, strings, structures, pointers, and dynamic memory allocation.
Prerequisites: IT 101

SET 191 Part-Time Cooperative Education 1: Software Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: None

SET 192 Part-Time Cooperative Education 2: Software Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: SET 191

SET 193 Part-Time Cooperative Education 3: Software Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: SET 192

SET 194 Part-Time Cooperative Education 4: Software Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: SET 193

SET 195 Part-Time Cooperative Education 5: Software Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: SET 194

SET 196 Part-Time Cooperative Education 6: Software Engineering Technology
1 Credit. 1 Lecture Hour. 20 Lab Hours.
Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: SET 195

SET 198 First Year Special Topics in Software Engineering Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Software Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.
Prerequisites: Instructor Approval

SET 199 First Year Independent Project in Software Engineering Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A project related to Software Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Software Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Instructor Approval

SET 252 C Programming 2
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of SET 151, using the C++ computer programming language. Topics include: classes, object-oriented programming techniques, polymorphism, inheritance, encapsulation, pointers, memory management, overloading, templates, and advanced data structures.
Prerequisites: SET 151

SET 253 C Programming 3
3 Credits. 2 Lecture Hours. 3 Lab Hours.
A continuation of SET 252, using the C# computer programming language. Topics include: program design, database programming techniques using stored procedures, and views with SQL Server.
Prerequisites: IT 111 and SET 252

SET 290 Software Engineering Technology Capstone
3 Credits. 1 Lecture Hour. 4 Lab Hours.
Students apply their programming and database skills to complete a software application.
Prerequisites: IT 103 and IT 111 and SET 252

SET 291 Full-Time Cooperative Education 1: Software Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: None

SET 292 Full-Time Cooperative Education 2: Software Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: SET 291

SET 293 Full-Time Cooperative Education 3: Software Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: SET 292

SET 294 Internship 1: Software Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

SET 295 Internship 2: Software Engineering Technology
2 Credits. 1 Lecture Hour. 40 Lab Hours.
Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: SET 294

SET 298 Second Year Special Topics in Software Engineering Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A course on selected topics related to Software Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.
Prerequisites: Instructor Approval

SET 299 Second Year Independent Project in Software Engineering Technology
1-9 Credits. 0 Lecture Hour. 0 Lab Hour.
A project related to Software Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Software Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: Instructor Approval