

# Computer Programming and Database Management (CPDM)

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## Computer Programming and Database Management (CPDM)

The Computer Programming and Database Management degree prepares students to design, program, and implement computer software using state-of-the-art programming languages and database technologies.

Graduates of the program earn an Associate of Applied Science degree, and are prepared to use their technical knowledge as skilled computer programmers in varied industries and organizations. Many graduates continue their studies and earn a bachelor's degree.

All of the Computer Programming and Database Management courses are available online, which provides students with flexibility in completing their degree requirements.

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

## Computer Programming and Database Management (CPDM)

Semester 1		Lec	Lab	Credits
ENG 101	English Composition 1 ( G )	3	0	3
IT 110	HTML with CSS and JavaScript ( B )	2	3	3
FYE 1XX First Year Experience Elective ( B )		1	0	1
XXX XXX Arts/Humanities Elective ( G )		3	0	3
IT 100	Computer Programming Foundations ( B )	2	3	3
Semester 2				
IT 101	.NET Programming 1 ( B )	2	3	3
IT 111	Database Design and SQL 1 ( B )	2	3	3
BPA 130	Business Systems Analysis and Design ( B )	2	3	3
MAT XXX Mathematics Elective ( G )		2	2	3
Semester 3				
CPDM 151	ASP.NET C# 1 ( T )	2	3	3
IT 102	.NET Programming 2 ( T )	2	3	3
IT 112	Database Design and SQL 2 ( T )	2	3	3
CPDM 190	Cooperative Education Preparation: Computer Programming and Database Management ( B )	1	0	1
ECO 1XX Economics Elective ( G )		3	0	3
Semester 4				
IT 140	PHP and MySQL ( T )	3	3	4
CPDM 291	Full-Time Cooperative Education 1: Computer Programming and Database Management ( T )	1	40	2
Semester 5				
CPDM 152	ASP.NET C# 2 ( T )	2	3	3

IT 220	Emerging Topics in Computer Software Development ( T )	2	3	3
IT 161	Java Programming 1 ( T )	2	3	3
ENG 10X English Composition Elective ( G )		3	0	3
<b>Semester 6</b>				
CPDM 290	Computer Programming and Database Management Capstone Design Project ( T )	3	3	4
CPDM 292	Full-Time Cooperative Education 2: Computer Programming and Database Management ( T )	1	40	2
Total Credits:		46	121	62

## Electives

### First Year Experience Elective

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

### Arts/Humanities Elective

Any Transfer Module course from ART, LIT, MUS, PHI, REL, THE, or COMM 130				3
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### 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

### Economics Elective

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

### 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

\* Offered Online

## Faculty

### Program Chair/Advisor

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

### Co-op Coordinator

Professor Andrea Feld, BA  
andrea.feld@cincinnatiatstate.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 290 Computer Programming and Database Management Capstone Design Project**

**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

Students combine their programming and database skills to complete a software application project, such as developing apps for various mobile devices, implementing a functioning database-driven website for a product, programming games for the Xbox, or developing code for the CPDM EDDIE Robot Platform.

Prerequisites: CPDM 152

**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 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 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 .NET Programming 1****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

An introduction to concepts of object-oriented software development using Visual Basic .NET. Topics include: application design methods, stages of software development, interaction with the .NET framework, and modular programming concepts utilizing procedures and functions.

Prerequisites: AFL 085 and AFM 092, or equivalent placement test scores

**IT 102 .NET Programming 2****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A continuation of IT 101. Topics include: object-oriented design and implementation using the .NET framework, developing class modules, and accessing and writing to external data storage and databases using ADO.NET and SQL.

Prerequisites: IT 101

**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 and 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

**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: Take IT 101, IT 110 and IT 111 (minimum grade of C for all)

**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 210 System Design and Implementation**

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on methodologies and techniques of the system development life cycle. Topics include: system design, project management for IT, system implementation, programming design, and system testing techniques.

Prerequisites: BPA 130

**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 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