

# CPDM - Computer Programming & Database Management

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## Courses

### **CPDM 120 Fundamentals of Object-Oriented Programming using Python**

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

A course on fundamentals of object-oriented programming using the Python programming language. Topics include: understanding Python; applying concepts of object-oriented design and programming by developing classes, methods, and properties using the principles of encapsulation, abstraction, inheritance, and polymorphism.

Prerequisites: IT 101 and IT 111 (minimum grade C for both)

### **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 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 250 Game Design and Society  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course that examines the interdisciplinary natures of games and the fundamentals of game design. Topics include: history of games and play in society; game genres; game technical and experiential features; characteristics of game players; and creating game concepts, worlds, and characters.

Prerequisites: IT 117

**CPDM 255 Web Game Development  
3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on introductory programming for web games and similar interactive media using web programming languages such as JavaScript and HTML. Topics include: game programming frameworks, web programming syntax, web programming libraries for games, using a game loop, using sprites, interactive GUI programming, and creating the game environment.

Prerequisites: CPDM 250

**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 252 or program chair consent

Instructor Consent Required

**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