Community College of Philadelphia

Computer Information Systems 205

Hybrid Database Management Systems

Summer 205, Hybrid Section 950

CRN: 52323

This page contains the syllabus for Computer Information Systems 205 – Hybrid *Database Management Systems*, as offered in the Summer 2015 Semester at Community College of Philadelphia.

It is published by the instructor as a communication with students. For official College information, including course listings, schedules, etc., contact http://www.ccp.edu/.

For information on Computer Information Systems and Computer Science programs and courses at Community College of Philadelphia try:

Computer Information Systems

Computer Science

Description

Computer Information Systems 205 - *Database Management Systems*

4 credits (8 hours lecture, 2 hours lab per week)

This course provides an introduction to the design and implementation of relational data base management systems using Structured Query Language (SQL). The course covers fundamental data base design and implementation techniques and provides hands-on exercises for applying the techniques to real-world problems through the use of database management software such as Microsoft Access and MySQL.

Prerequisites: CIS 103.

Upon completion of this course students will be able to:

1. Design and Create Conceptual Relational Database Using a professional modeling application
2. Implement Physical Database from a Conceptual Design
3. Work as part of a professional team to design, code, test and debug normalized databases
4. Correctly use the elements of Relational Algebra retrieving result sets from relational databases
5. Create source code and execute SQL statements that are syntactically correct
6. Demonstrate a knowledge of input and output routines, data types, and data operations
7. Create separate software modules in Procedural Language SQL
8. Demonstrate a knowledge of key concepts in Database Theory

Who Should Take Course and Why

This course is structured for student wanting advance training in designing and administering relational databases using professional Relational Database Management Systems RDMS. Additionally, students wanting to survey advanced concepts in the Database Theory, Database Programming, and Database Implementation should take this course.

Instructor:

Craig Nelson

Office: Room C3 – 1F

CBI Building

Phone: (215) – 972-6228

Email: cnelson@ccp.edu

Website: http://faculty.ccp.edu/faculty/*cnelson*

Office Hours: Summer Session 2015 are by Appointment Only

Mondays

Tuesdays

Wednesdays

Thursdays

Fridays

Saturdays

Contact me anytime via e-mail. Most questions about course work can be answered best via e-mail, which allows me to send you a written response with examples or references.

Text

DATA SYSTEMS DESIGN IMPLEMENTATION, MANAGEMENT" 10E

By: Coronel/Morris/Rob

ISBN: 9781305001831

Book Price: $196.00

Course Mate Course Key: **CM-9781133113171-0000077**

This is a custom book package that can only be obtained from the college's bookstore. The custom book contains a subscription to an online web service that provides additional tutorial support. Course Mate is an online supplement web application that compliments the textbook. It contains online tutorials and practices quizzes that match the content in the chapters of the textbook

You may optionally obtain an E-Book version of the book at varying prices online. This version of the book will not be packaged with the online tutorial support.

We will also rely heavily upon notes, tutorials, Internet references and exercises distributed by the instructor. Each week, the Website for the class will be updated to include links to the upcoming week's material. The Website for the class is accessed through the Canvas Learning Management System (LMS). We will review how to access the Canvas LMS in our introduction to the course lecture, the first day of class.

For the second half of the course, students will need to use a text editor that is SQL enabled. Students may use the (Note Pad ++), it is SQL enabled; I will demonstrate how to use it in one of our face to face meetings. I strongly recommend using Note Pad ++ when creating SQL script in the class.

SOFTWARE FOR THE COURSE

Students taking this course are entitled to a Microsoft Dream Spark account. This will provide the privilege of downloading many Microsoft products free of charge. New versions of MS Office however, is not included in the list of products that are available to you. It may take several weeks to get your Dream Spark accounts activated. In the mean time you may download trial versions of the Microsoft products or download an open source office suite such as Libre-Office or Open Office.

Additional software may be downloaded from their websites listed below

NOTEPAD ++

Open Source Text Editor used to create SQL commands. It recognizes reserve words and other special syntax in the SQL Database Language. I will use this editor to illustrate examples of SQL Script.

Link to Download Note Pad ++

http://notepad-plus.sourceforge.net/uk/download.php

MySQL SERVER

Students wanting to work at home will need to download a version of MySQL Server. When we get to applied database activities, this will be the primary software that we will work with. You may use the following link to acquire a free copy of MySQL. Select **the MYSQL Community Server** link from the download portal. You may then select from the version that matches the Operating System (OS) that you have at home. This is a fully functional enterprise level Relational Database Management System (RDBMS)

http://dev.mysql.com/downloads/

MICROSOFT OFFICE

For the first couple of weeks of the semester the class will examine Microsoft Access to get us started using a Management System (DBMS). We will then transition to the more sophisticated MySQL Server as our (DBMS). Students wanting to work with this MS Access at home may download MS Office 2007 from Dream Spark. Students may also want to consider student versions of the 2013 product at a substantially reduced price. You may also Google "MS Office for Students" to get competitive pricing. A trial version of Access will be sufficient if you plan on participating from home for the next two weeks. However, the Office 2007 version of Access will be sufficient for the limited exposure that we will have with Microsoft Access.

The following Link will direct you to Microsoft's Trial Software Center if you prefer to work with the Access 2013

http://office.microsoft.com

MICROSOFT VISIO

During the first half of the course, students will be exposed to concepts and skill sets in Database Modeling. It is strongly encouraged to put extra effort in to model your assignments using a modeling tool. The modeling tool of choice for this class will be Microsoft Visio; you may also use Microsoft Word and its drawing tools, as the modeling

assignments will not be very sophisticated. You will be able to obtain a copy of Visio through your Dream Spark account. Your Dream Spark Account should be offered to you by the second week of this summer hybrid course.

Topics, Schedule and Links to Class Notes

The class meets **Monday and Wednesday 11:20 am to 2:00 pm** in room **C3-18**. This is a Hybrid version of CIS 205. Half of the class will meet online, the half of the class will meet face to face.
Details of the course schedule, such as notes on upcoming classes, will be posted in the Canvas LMS as the course progresses. Some content may get more emphasis then others and some material may move to different weeks depending on the needs of the class.

For the official College Academic Calendar, see http://www.ccp.edu/site/academic/academic_calendar.php

Weekly Schedule

Week 1	Tue, Sept. 2 – Sun, Sept. 7	**Introduction to the course** **Introduction to Canvas LMS** **Introduction to the Modern Relational Database Management Systems (RDMS)** **Single Table Queries**
Week 2	Mon, Sept. 8 – Sun, Sept. 14	**Data Models** **The Relational Database Model** **Single Table Queries**
Week 3	Mon, Sept. 15 – Sun, Sept.21	**Entity Relationship (ER) Modeling** **Advanced Data Modeling** **Single Table Queries** **Relational Algebra** • Unions • Joins • Intersections • Differences

Week 4	Mon, Sept.22 – Sun, Sept. 28	**Normalization of Database Tables** • First Normal Form • Second Normal Form • Third Normal Form
Week 5	Mon, Sept.22 – Sun, Oct. 5	**Introduction to Structure Query Language** • SQL Multi-Table Joins • Advance Select Statements **Working with MySQL** • MySQL Data Types • Using Notepad ++ **Introduction to Structure Query Language** **Working with MySQL** • MySQL Data Definition Language (DDL) and Table Creation in SQL • MySQL Constraints • Updating Tables • Deleting Rows
Week 6	Mon, Oct. 6 – Sun, Oct. 12	**Advanced SQLL** • Sorting and grouping data • Using Built in Functions • Computed Fields **Advanced SQLL** • Altering Tables • Indexing • Views • Nested Queues, Inner Queries

Week 7	Mon, , Oct. 7 – Sun, Oct. 19	**Business Intelligence and** **Data Warehouses** • Introduction to Data Cleansing • Introduction to MySQL Procedures • Introduction to MySQL Functions • Introduction to MySQL Triggers **Web Technologies in Database Management** • Introduction to XML • Introduction to JSON • Introduction to Big Data **Final Project is Due**

Grading

During the semester there are several different types of graded activities

- Exams
- participation in weekly class discussions
- Course assignments, they will be a mixture writing SQL statements and creating data modeling documents. We will also have Group Projects that use a variety of Collaboration Tools such as Document Markup in MS Word, collaboration tools in Canvas and other cloud based collaboration tools. This will permit team members to review assignments together and use tools for collaborative editing of lab reports. Also, time permitting, we will review the use of GIT and GITHUB, a document versioning tool used by professionals in Computer Technology.
- Final project and presentation (100 points)

Final grades will determined based on the percentage of the total points each student has earned during the semester. This will be calculated by dividing the total points earned by the total possible points that you could have earned during the semester:

A – 90% to 100 % | B – 80% to 89 % | C – 70% to 79 % | D – 60% to 69 % | F - less than 60 %

If you have questions about specific grades or your overall progress at any time during the semester, then please consult with me. I will be glad to review individual items and your overall grade at any time.

All College policies regarding attendance, classroom behavior, etc., will be enforced, and may affect your grade as the instructor deems appropriate.

Assignments

There will be 1 major project, which together will count towards your final grade. Projects will be completed collaboratively in groups. Projects will be a combination of group contribution and individual contribution. Students should start to interact with other students in the class to start forming groups. Students should inquire about each other's availability and pick a group leader. Most weeks will have one or more discussion topics to respond to. Discussion forum points will count towards your final grade. There will be additional graded lab work and weekly assignments that will prepare you for the projects and exams; these will also count towards your final grade. You will have to use the material learned in class, textbook and additional class material to complete work in the lab work and projects. More information about lab work and projects will be posted for download to weekly modules in the Module section of our courses website in Canvas as the semester progresses.

Exams and Quizzes

There will be a series of weekly quizzes. Since this is a seven week semester instead of the typical 14 week semester, there will two weekly quizzes instead of one weekly quiz. The quizzes will be administered online through the Canvas LMS. A final exam will be optional for students wanting to increase their final grade.

Assignment Submissions – All assignments are to be submitted through the file submission portal using the submit link for the assignment in the Canvas LMS. All submitted assignments must include your name and assignment name in the file name of the document being submitted. Any assignment submissions not following this naming format will not be accepted. Assignments will not be accepted through email. Do not attempt to submit your assignments as email attachments. I do not accept hand written or printed material. Assignments submitted late are subject to a late penalty. Students or groups should notify me of assignment or projects that are behind schedule.

Notes from the Instructor – Keys to Successful Learning

Education is a Social Process

Architects use the metaphor of the campfire and the cave to describe spaces they are designing. A campfire is a place where people come together to be with one another to work, play, etc. A cave is a place where a person can rest, read, etc. alone quietly. Architects design business spaces to have both campfires and caves – places where they can conduct business and commerce with other people and places where people can work alone quietly when necessary.

Successful students need to spend time both at the campfire and in the cave. They need to engage with teachers and other students in classrooms labs, online forums, and so on, but they also need to have a time and place to work alone, reading studying, and developing a personal understanding of the course material.

In other words, education, like life itself, is both a social process and a personal psychological process.

We learn from other people and with other people. You should take the opportunity to communicate with and work with other students and your teacher. You can learn from them and they can learn from you. The course will be easier and you will learn more if you become part of the social fabric of the course.

Yet, ultimately we learn best by developing a personal understanding of the course material. We each need to spend time studying away from others to develop a personal, inner understanding of the course material beyond what can be learned communally.

This course moves along quickly. There will be reading and written homework assignments each week, So, you will need to quickly establish a pattern for how you will participate in the class each week and when you will find time to do your course work, alone, and working with others.

Learning Demands Participation

Woody Allen once said "*The hardest part of making a movie is to get the actors to show up on time. The rest is a piece of cake.*" The same thing is true for learning – students who show up for class and do their work each week will do well.

A great deal of educational research has shown that the single biggest factor in determining final grades is class attendance. No other factor, not I.Q., SAT scores, family wealth, ethnic origins, nor any other factor correlates as closely with final grades as classroom attendance. If you show up for class and do the required work each week you will do well, if not, you won't do well. This is true, in part, because colleges and universities have a complex system of placement and prerequisites to make sure you are in a course that you are able to handle. You must show up for class and do the required work each week to do well in the course.

This is especially true in a weekly-oriented distance education course. Your grade is directly related to how much you participate in the course.

Computer Labs

All instruction will be in a computerized classroom with one workstation per student. Each workstation is connected to the College-wide network, with Internet and e-mail access, so students may e-mail files between the classroom and home.

Class time includes approximately two hours per week of lab time. You will still find it necessary to complete work outside of class.

The College has a number of open lab facilities for students. For more information visit the **Student Academic Computing Center in room C3-17**. An introduction to these facilities is included in the classes at Community College of Philadelphia that are prerequisite to this class.

Students are expected to utilize College-owned computer facilities as part of this class, including physical facilities, networks and Internet access and to become familiar with the policies and accepted behavior for these facilities. Any violations of their rules that results in a student being removed from or banned from using a College facility are grounds for dismissal from the course -- such as attempting to remove, copy or install software on the College's systems.

The classroom-based version of this course meets for five hours per week. You should allow several hours per week for study and several hours per week for your programing lab work.

The College has a number of open lab facilities for students who wish to do their work on-campus. For more information see;

Canvas and Computer Resources

The class depends on your ability to use Canvas. If you have problems using Canvas, then please contact Vaishali Sharma, at vsharma@ccp.edu. For more information about Canvas, or Distance Education, please see the Distance Education Website at:

http://www.ccp.edu/site/de/

Main Campus (CBI Building SACC)	18th and Callowhill Sts.
Northwest Regional Center	12901 Townsend Rd
Northwest Regional Center	1300 W Godfrey Ave.
West Regional Center	4725 Chestnut St.

Students are expected to utilize College or Personal computer resources as part of this class, including Websites, networks, and the possible use of physical facilities. You are expected to become familiar with the policies and accepted behavior for these resources. Any violations of their rules that results in a student being removed from or

banned from using a College facility are grounds for dismissal from the course -- such as attempting to remove, copy, or install software on the College's systems.

Learning Lab Support

The Learning Lab will provide tutorial support for students requiring one on one tutorial support for this class. They may even be able to provide one on one tutorial support online using video conferencing. For more information on tutorial support for CIS courses contact:

Mavis Pogue. B2-36d 215-751-8474 mpogue@CCP.EDU

- Policies:

The CIS Department adheres to all College Policies. These can be found in your Student Handbook or at the following hyperlink:

http://www.ccp.edu/site/policy.php

Financial Aid:

Please see the College catalog regarding impact to Financial Aid if you drop this course.

Messages:

It is best to reach me via e-mail (cnelson@ccp.edu). Please include your name, and course number in the subject line.

You do not have to tell me about a single absence (See Attendance).

If you do not get a response from me within 24 hours, please send your e-mail again.

Classroom Conduct:

You should be punctual, alert, and prepared for each class session. You must be considerate of other students, which includes being quiet during class lecture and discussion except when you have something to contribute to the class. Cell phones and beepers will be turned off or on vibrate mode for the entire class. If necessary, you will take calls outside the classroom. You are not permitted to surf the Internet during lecture. Children are not permitted in the classroom.

Food, beverages and their containers are not permitted in the classroom. Homework and/or lab should not be done during lecture.

ACADEMIC INTEGRITY POLICY & PROCESS:

See the uploaded document detailing Community College's Academic Integrity Policy & Process. In summary, students must do their own work when the assignment specifies that it is an individual assignment. Assignments that are collaborative will be designated as being so. Plagiarism will not be tolerated. Any assignment presented by a student in fulfillment of course requirements must reflect his/her own work unless credit is properly given to others. Anyone who assists another in such academic dishonesty is equally responsible. The grade on the assignment will be an "F" for all parties involved, if an academic integrity violation is discovered.

Disability Accommodations Policy:

Students who are registered with the Center on Disability must inform the instructor by the end of the first week of classes if special accommodations are requested. Proper documentation must be presented.

Important Dates for the Summer 2015 Semester:

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Monday May 11	This is the first day of the summer I semester
Tuesday June 24	Final day of classes for Summer I 2015 7-week (term code 7A) terms
Wednesday June 25	Finals for Summer I 2015 7-week (term code 7A) terms
Thursday June 26	Finals for Summer I 2015 7-week (term code 7A) terms