Rowan College at Burlington County

Course Syllabus

4Division of Science and Mathematics			
Department	Computer Science		
Faculty Member	Robert Manning		
Course Title	Database Systems		
Course Number	CSE-213-170	**Credits**	3
Prerequisites	MTH -130		
Co-requisite			
# of Lecture Hours	Distance Learning	**# of Lab Hours**	
Semester	Fall	**Location**	Online
Course Start Date	08/30/2023	**Course End Date**	12/18/2023
Meeting Information	Online - Blackboard		

Coordinator:	Chris Simper		
Coordinator Email	csimper@rcbc.edu	**Phone**	856-222-9311 ext.2090

Faculty Contact Information

Instructor: Robert Manning Email: rmanning@rcbc.edu As an Adjunct instructor I do not have a campus phone or office. Phone: Web Site: Office:	**Office Hours:** To be Scheduled
Alternate Contact: Associate Dean: Dr. Tiffany Worthy	Email: tworthy@rcbc.edu

Campus Resources

Transfer Center	Evans Hall, Room 172 Monday - Friday: 8:30 am - 5 pm transfer@rcbc.edu (856) 222-9311, ext. 2737
Career Services Center	Student Success Center Monday - Friday: 9 am - 5 pm (856) 222-9311, ext. 2056 CareerServices@rcbc.edu

Tutoring Center	Student Success Center, Room 209 (856) 222-9311, ext. 2096 Monday: 9:30 am - 4 pm Tuesday: 9:30 am - 4 pm Wednesday: 9:30 am - 4 pm Thursday: 9:30 am - 4 pm Friday: Closed Saturday: 9:30 am - 1:30 pm Sunday: Closed

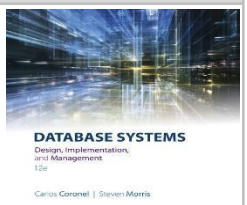
Section 2

Course Description

This course serves as an introduction to the theory of database design and database programming. It focuses on data models (E/R, relational, and object oriented), dependencies, constraints, normalization, rational algebra, and SQL.

Required Text and Other Materials

Database Systems, 12th Edition by Carlos Coronel and Steven Morris:
ISBN#: 978-1-305-62748-2



Flash Drive: External Hard disk **required** for assignments and exercise
Remote Access: Computer with Internet access, Speaker and a Microphone.

Course Learning Outcomes

Upon completion of this course, students will be able to:

1. Understand Database Concepts, systems and models
2. To understand design and implementation of the database models
3. Utilize keys, relations, attributes and dependencies
4. Understand and describe the various “normal” forms
5. Understand Entity relationship modeling
6. To acquire a clear comprehension of a Database Management systems

Course Objectives

- Entity Relationship Model
- Relational Data Models and Functional Dependencies
- Relational Database Design
- The Object Definition Language
- Relational Algebra
- The Simple Query Language (SQL)
- Sub-queries and relational operations

General Learning Outcomes

A. Written and Oral Communication: Communication

1. Students will logically and persuasively support their points of view or findings.

B. Technological Competency or Information Literacy: Technology

1. Students will demonstrate the skills required to find, evaluate, and apply information to solve a problem.

Mapping CLOs to GLOs

☐ CLOs# 1, 2, & 6 mapped to GLOs# A1 & B1 ☐ CLOS# 2, 3, 5, & 6 mapped to GLOs# B1 *The CLOs are mapped to GLOs for HCI, INF, and CRT.GIS programs.	

Section 2:

Course and Classroom Policies:

This Course Requires a Digital Subscription to Cengage.

A digital subscription to Cengage provides online access to the book and all supporting educational material provided through MindTap. See the details in Blackboard. MindTap empowers you to produce your best work – consistently.

MindTap is designed to help you master the material. Interactive videos, animations, and activities create a learning path designed by your instructor to guide you through the course and focus on what's important. Get started today!

Getting Started with MindTap

Refer to the Getting Started section of Blackboard for using Cengage MindTap.

Access to the book

Digital access to the book has already been paid for as part of your registration.

Linking your Blackboard Course to Cengage

1. Connect to Cengage/MindTap using the link provided in the Started Here Section of the Blackboard course.
2. Follow the prompts to connect your Blackboard course to the Cengage MindTap course.

Cengage 24/7 Support Links

Refer to the Start Here section of Blackboard for links to Cengage support.

Expectations

This section of CSE 213 is an instructor-led fully online course. *This course is not self-paced!* There are deadlines and due dates throughout the course. This course is taught using the assigned textbook and the Blackboard Learn course management system. There are **no** required synchronous ("real time") activities. The course is **not** taught by telephone, email or in-person meetings.

According to US Federal Code [34CFR668.22] "academic attendance" for online courses includes submitting academic assignments, taking tests, engaging in an interactive tutorial or computer-assisted instruction, and participating in an online discussion about academic matters. Attendance does **not** include logging into an online class without active participation. You will have many opportunities to participate in these *meaningful academic activities* considered by the federal government to be academic attendance.

Required email:

Students are assigned an email account by the college (firstname_lastname@mymail.rcbc.edu). Students are expected to use this account to correspond with the instructor and to include CSE 213-170 in the subject line.

Attendance:

- *Face to Face and Blackboard Courses*
  - Students are expected to login to Blackboard weekly to complete assignments.
- *Face to Face Courses*
  - Coming to class late and/or leaving class early without prior permission from the instructor will be counted as an absence.
  - All materials will be collaborated as in class exercises and discussions. Attending all classes is the key to success in this class, since all projects/exams will be based on those materials that are covered in the class.

Computer Usages: (Face to Face courses)

- Students are not allowed to use personal computers for any other purposes except for lecture notes during lectures and for practice.
- A student will be asked to leave the room if he or she persists in using a computer inappropriately.
- Printing is not permitted during lectures.

Readings

- The term "readings" includes assigned reading in the course textbook(s), viewing the course "PowerPoints" in Blackboard, viewing videos in blackboard and exploring websites and other resources linked from Blackboard. By using these

instructional materials, you will have enough information to successfully complete the graded course activities. Not utilizing these materials (not completing the assigned readings/viewings/explorations) is very much like missing class in a face-to-face course. If you don't do the "readings" you won't be able to complete the assignments etc.

- The course consists of several lessons. Each lesson contains a chapter to read from the textbook along with PowerPoint slides, some of which may contain voice overs. So, if you see a speaker on the lower right of a slide, be sure to click on it. Additionally, each lesson will contain a graded discussion question for which the posting and reply procedure is described later in this syllabus. There may also be links to outside material or videos in each lesson that reinforce the information presented.
- Generally, our goal will be to complete one chapter / lesson per week.

Due Dates

- It is critical to adhere to due dates in this course. Grading Rubrics exist for Discussions, Journals, and the Final Project with severe penalties for late submissions. Timely completion of these tasks is necessary to maximize the Project experience and to ensure successful Project completion.

Communications within the Course

There are two major ways of communicating in this course:

1. Class Discussions (asynchronous communication in an ongoing discussion format between and among students. I will also be participating in these discussions, as necessary. Graded discussions are required.
   There will be an ungraded Q&A discussion area that will usually be your fastest and best way to get answers to questions unrelated to the graded discussions since both students and faculty participate there.
   Also there will be an ungraded “Coffee House” discussion area that you may use to communicate with the other students in the course on any topic you desire.
2. Private Messages (direct communication between individuals in the course) I will usually respond to Messages within 1 TO 2 business days. I will usually respond on weekday evenings. I will usually not respond on weekends or holidays, but I may, so feel free to contact me at any time. I will respond as soon as possible.
3. If for some reason you are unable to communicate with me through Blackboard, then please privately email me at rmanning@rcbc.edu . As with Blackboard messages, I will respond within 2 business days.
4. Office hours will be scheduled as necessary.

Criteria for Grade Determination

Hands-on Exercises

Each chapter in the textbook has a Summary, Key Terms, Review Questions and Problems. Working through these will help reinforce and apply the lessons presented in the chapter.

All Cengage assignments may be attempted and submitted twice with the best grade becoming your grade in blackboard.

Quizzes

Each lesson concludes with a graded quiz in Cengage for which you will have a maximum of 2 hours to complete, which is way more than enough time for anyone. You should be able to complete all quizzes in less than 30 minutes. You may take a quiz twice, your grade for the quiz will be the better of the two grades.

Software tools

To facilitate the demonstration and practice of creating an Entity Relationship Diagram and learning Structured Query Language (SQL), you may use any software you have available or you may select from the following free tools:

- **FOR DRAWING PROFESSIONAL ENTITY RELATIONSHIP DIAGRAMS (choose 1):**
  - **DRAW.IO** is a free online tool for drawing ER Diagrams, Flowcharts and Process Diagrams. It is available at http://draw.io. There is also a free desktop version available at https://www.diagrams.net/. See the ***Getting Started*** section of Blackboard for links and a demonstration video.
  - ***ERDPlus*** found at https://erdplus.com/. This is a free web-based tool for creating and saving Entity Relationship Diagrams. See the ***Getting Started*** section of Blackboard for links and a demonstration video.
- **FOR RUNNING SQL (choose 1):**
  - **DB Browser for SQLite** is a SQLite Development Environment that provides a Graphical User Interface to SQLite which includes an embedded SQL database engine from the public domain and is thus free to use for any purpose. If you install *DB Browser for SQLite*, you DO NOT need to install the SQLite Database Engine because it is incorporated into *DB Browser for SQLite*. This software is found at SQLiteBrowser.org. See the ***Getting Started*** section of Blackboard for links and a demonstration video.
  - **MySQL with MySQL Workbench** work together. **MySQL** is the database engine and My**SQL Workbench** creates an easier interface to MySQL. See the ***Getting Started*** section of Blackboard for links, installation instructions for each and demonstration videos.

You are not required to use these tools. You may use any software you have access to that will allow you to apply related topics learned in this course. I will not be able to provide detailed support for these tools. This is ***NOT*** a lab-based course.

Graded Discussion Forums (IMPORTANT!)

You are expected to participate in discussion board postings, both graded and ungraded. Please follow the instructions for each discussion. Generally, you will be asked to respond to statements or questions and to provide feedback, critiques or comments. You will also be responsible for responding or reacting to at least one statement posted by TWO other students. Instructions are included with each discussion question.

Usually some amount of research will be required for graded discussions and references must be cited. Citation format is not critical, but everything that is not your own, original thoughts or ideas must be cited! Princeton University has a good website that explains when you must cite sources. The RCBC plagiarism policy will be followed. All students should post comments in their own words. Cutting and pasting from websites is considered plagiarism and is unacceptable and will receive a grade of zero for the first offense and more significant penalties for additional offenses.

All discussion board postings will remain on a professional and courteous level and be written in proper, college level English. This is a requirement of this course. If you fail to keep things "civil" it will result in a loss of points, which could affect your grade in the course. Exceptionally bad cases may result in disciplinary action by the college.

The Discussion Rubric is available to view in Blackboard.

Points will be given for high quality, constructive comments, or criticism. Stating simply that you agree or disagree with another student will not result in any points. Simply asking a question of another student will not earn points. You must add to the discussion with a substantive comment or you will not receive full credit. You must also cite your references, or you will not receive points for material that is the work of another author.

Graded discussions normally are tied to the weekly lessons and ***completed by the Sunday due date***. Your initial post should be submitted by **Tuesday** with your replies to your fellow students completed by **Sunday due date,** end of day. The grading rubric presented is included in Blackboard for graded discussions.

Initial Discussion

Just introduce yourself as suggested in the discussion question and reply to ***two*** other students' posts. Have fun and get to know each other. This is a graded discussion.

Assignments and Project

Assignments:

There will be fourteen (15) assignments, including 2 SQL and 1 Normalization assignment, in this course pulled most of which are from the Cengage MindTap website. The SQL and Normalization assignments are not through Cengage MindTap. You may take an assignment twice, EXCEPT for the SQL and Normalization assignments, and the best grade will be your grade.

Project:

The Final Project where you will design a database and produce a Final Project Report. There will be three private Journals that will allow me to work with you to develop your project. The Project, including journals and Final Project Report, will account for **35%** of the final grade as described under the Grading section below.

The Journals will be used throughout the course to develop your project. I will interact with you in each journal to make sure you are on track and provide guidance as needed.

Therefore, due dates for all Journals must be adhered to so that I can provide timely feedback allowing you time to address my comments for the next journal.

Journal 1 – *The Project Statement*: Here you will define, and I will approve your project and you will identify the Business Rules.

Journal 2 – *Identify Major Entities and Relationships*: As you can determine from the title, you will identify the major entities and relationships resulting in the initial Entity Relationship Diagram.

Journal 3 – *Expand Each Entity with Their Attributes and Apply Database Design Principles*:

- Database Normalization – organizing data so information is stored only one time, in one place. Here the student would discuss the modifications they made based on the Normalization process.
- Identifying primary and foreign keys – These allows fast access to information, such as an Employee Number.
- Create a revised Entity relationship diagram.
- Creation of the Structured Query Language (SQL) required to build the database.

- Transaction Analysis – This process takes the major business activities and runs them through the database design to determine if the flow through the database supports the business activity and is efficient. This would require creating of a query, using SQL, to retrieve data for the major business activities. This process can cause you to reevaluate what you have done so far and make any necessary adjustments to your database design.

Final Project Report:

A formal Project Report in a document that would summarize all the prior work in a professional presentation report. This report would include:

- Project Statement
- Business Rules
- Final Entity Relationship Diagram including primary and foreign keys that can be created in ERDPlus website, DRAW.io or any other tool you have available to create a professional quality ERD.
- Relational Schema Diagram.
- Transaction analysis for the major transactions within the organization
- Structured Query Language necessary to create the database and load sample data.
- Summary – What you learned from the Transaction Analysis, what you would do differently in the design and why.
- This report would be a dual-submission assignment with the first being an optional draft followed by the final submission and grade. You will make any necessary changes specified in the feedback of the Draft Project Report (if submitted on time) and you will submit the formal Final Project Report.

Specific instructions and a grading rubric for each assignment will be available in the Blackboard ***Journals and Project Submission***, and the ***Rubrics*** menu areas.

Important note: All Journals and Final Project Report must be uploaded to the proper Blackboard Assignments area. Assignments should not be submitted via e-mail or posted to the Discussion areas. Files must be uploaded in standard **Microsoft Office** or **Google Docs** formats. If I cannot open the file, I cannot grade it. Files should also be uploaded with appropriate file extensions (“doc”, ".docx", ".xlsx", ".accdb" and ".pptx"). **Do not submit assignments in PDF format**.

Most Assignment and Quizzes (except for the Journal, Project Documents and SQL assignments) are performed and submitted within the integrated Cengage MindTab website.

Late assignments will be accepted *with a grade penalty* at the sole discretion of the instructor. You must include an explanation of why the assignment is late for it to be considered. I will determine, on a case-by-case basis, a grade penalty to apply based on your explanation and the lateness of the submission. The rubrics contain a deduction for late submission.

GRADING

The course will consist of Assignments, Discussions, Quizzes, and the Final Project that total to 1,000 points. Each assignment has an assigned point value that will be used in determining the final grade percentage. The final grade will be based on all these factors. The breakdown is as follows:

12 Assignments each worth 15 points (***Check My Understanding*** in Blackboard)	180 total points – 18% of final course grade
2 SQL and 1 Normalization Assignment each worth 30 points	90 total points – 9% of final course grade
12 Chapter Quizzes each worth 15 points (***Homework*** in Blackboard)	180 total points – 18% of final course grade
13 Discussions each worth 15 points	195 total points – 19.5% of final course grade
3 Project Journals each worth 50 points	150 total points – 15% of final course grade
Final Project Report worth 205 points	205 total points – 20.5% of final course grade
	1,000 Total Points – 100%

Grade Determination:

A	= 90-100%
B+	= 85-89.99%
B	= 80-84.99%
C+	= 75-79.99%
C	= 70-74.99%
D	= 60-69.99%
F	< 60%

Course Schedule (subject to change)

Classes	Due Dates	Material Covered	Topics
Week 1	9/10/23	***Lesson 1***-Chapter ***1***	***CH01-Database Systems*** CH01-Check My Understanding Graded Discussion CH01-Homework (quiz) Journal #1 ***Initial*** Submission
Week 2	9/17/23	***Lesson 2***-Chapter ***2***	***CH02-Data Models*** CH02-Check My Understanding Graded Discussion CH02-Homework (quiz)
Week 3	9/24/23	***Lesson 3***-Chapter ***3***	***CH03-Relational Database Model*** CH03-Check My Understanding Graded Discussion CH03-Homework (quiz) ****** Journal #1 Final Submission ******
Week 4	10/1/23	***Lesson 4***-Chapter ***4***	***CH04-Entity Relationship Model*** CH04-Check My Understanding Graded Discussion CH04-Homework (quiz) Journal #2 ***Initial*** Submission
Week 5	10/8/23	***Lesson 5***-Chapter ***6***	***CH06-Normalization of the Database*** Graded Discussion CH06-Check My Understanding CH06-Homework (quiz) *Ch06-Normalization Assignment*
Week 6	10/15/23	***Lesson 6***-Chapter ***7*** ***SQL – Week 1***	***CH07-Introduction to Structured Query Language*** ****** Journal #2 Final Submission ******
Week 7	10/22/23	***Lesson 7***-Chapter ***8*** ***SQL – Week 2***	CH07-Check My Understanding *CH07-SQL ASSIGNMENT* CH07-Homework (quiz) ***CH08-Advanced SQL (start)*** Journal #3 ***Initial*** Submission
Week 8	10/29/23	***Lesson 7***-Chapter ***8 (cont.)*** ***SQL – Week 3***	***CH08-Advanced SQL (cont.)*** CH08-Check My Understanding *CH08-SQL ASSIGNMENT* CH08-Homework (quiz)

Classes	Due Dates	Material Covered	Topics
Week 9	*11/5/23*	***Lesson 8**-Chapter **9***	***CH09-Database Design*** Graded Discussion CH09-Check My Understanding CH09-Homework (quiz)
Work 10	*11/12/23*	***Lesson 9**-Chapter **10***	***CH10-Transaction management and concurrency control*** Graded Discussion CH10-Check My Understanding CH10-Homework (quiz) Introduce Final Project Paper
Week 11	*11/19/23*	***Lesson 10**-Chapter **11***	***CH11-Database performance tuning*** Graded Discussion CH11-Check My Understanding CH11-Homework (quiz) ****** Journal #3 Final Submission ******
Week 12	*11/26/23*	***Lesson 11**-Chapter **12***	***CH12-Distributed Database Management Systems*** Graded Discussion CH12-Check My Understanding CH12-Homework (quiz)
Week 13	*12/3/23*	***Lesson 12**-Chapter **13***	**** **Optional** Draft Project Paper DUE **** *(Drafts received after this date may not receive feedback)*
Week 14	*12/10/23*	***Complete Final Project Paper.***	***CH13-Business intelligence and Data Warehouses*** CH13-Check My Understanding CH13-Homework (quiz)
Week 15	*12/18/22*	***END OF DAY***	****** Final Project Paper Due ****** Final Discussion (Graded)

SECTION 3:

College Policies

In order for students to know their rights and responsibilities, all students are expected to review and adhere to all regulations and policies as listed in the College Catalog and Handbook. These documents can be accessed at http://www.rcbc.edu/publications. Important policies and regulations include, but are not limited, to the following:

- Grading Standards
  - Withdraw (W) and Incomplete Grade (I)
  - Withdrawal date for this semester
- Student Code of Conduct
- Use of Communication and Information Technology
- College Attendance Policy
  - Students are required to attend all class, clinical, laboratory, and studio sessions for the full duration of each such instructional session. Faculty are required to record student attendance, and grade penalties for absence will be imposed when a student exceeds a ten percent non excused absence rate, not to exceed 10% of the final grade.
  - For all on-campus courses, including hybrid and hybrid-mixed-mode on-campus meeting days, excused absences include: suspected COVID-19 related illness (i.e., exhibiting symptoms), tested positive for COVID-19, or demonstrated need to quarantine. For all VLC courses and hybrid and hybrid-mixed-mode virtual meeting days, excused absences include: suspected COVID-19 related illness (i.e., exhibiting symptoms that prevent the student from participating online).
  - Students are responsible for informing their instructor as soon as the situation is known and following all other guidelines as outlined by the college. Failure to do so may lead to the absence not being excused. Students are also responsible for communicating with instructors to make reasonable arrangements for the completion of course requirements not completed due to absence.

- Academic Dishonesty/Plagiarism
  - Specifically, the term “plagiarism” includes, but is not limited to, the use by paraphrase direct quotation, of the published or unpublished work or sections of a work of another person without full and clear acknowledgement, whether intentional or not. This includes any material copied directly or paraphrased from the internet. Plagiarism also constitutes the unacknowledged use of materials prepared by another person or agency engaged in the selling of a term papers or other academic materials, including material taken from or ordered through the Internet. For more information on academic dishonesty/plagiarism see Board Policy #903-C.

Office of Student Support and Disability Services

In accordance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) and the ADA Amendments Act, the Student Support Services Office’s mission is to ensure all students with disabilities are provided access to educational and extracurricular activities while on college premises through support in the form of reasonable accommodations such as adaptive technology, counseling, note-taking assistance, and American Sign Language interpreters. Students who

have disabilities must self-identify, provide documentation of disability(ies), attend an intake appointment, and sign a Disability Release Form (rcbc.edu/studentsupport) prior to the start of the semester to ensure reasonable accommodations. For more information please contact the Office of Student Support at ext. 1208. For additional information on this policy please refer to the current catalog.

Educational Technology Statement

Rowan College at Burlington County (RCBC) advocates the use of technology to enhance instruction. Students should assume that classroom and online technology will be used throughout their coursework at RCBC, as it will most certainly be used in their future education and careers. The College provides on-campus facilities for the convenience of the RCBC community. Various college departments, including the Office of Information Technology and the Office of Distance Education, provide technology training and assistance to faculty and students.

Student Success Services

RCBC offers a variety of free services for its students including those listed below. Descriptions of these services, as well as many others, can be found in the College Catalog and Handbook and on the RCBC website at https://www.rcbc.edu/students.

- **Academic Advising (**https://www.rcbc.edu/advising**)**
- **Struggling Personally or Academically** (https://rcbc.edu/need-help-now)
- **Career Services (**https://www.rcbc.edu/careers**)**
- **EOF (**https://www.rcbc.edu/eof**)**
- **Financial Aid (**https://www.rcbc.edu/financial-aid**)**
- **International Students Office (**https://www.rcbc.edu/internationall**)**
- **ESL Advising & Support (**https://rcbc.edu/esl)
- **Library (**https://www.rcbc.edu/library**)**
- **Office of Veteran Services (**https://www.rcbc.edu/vets**)**
- **RCBC Foundation -Scholarship information (**https://www.rcbc.edu/foundation**)**
- **RCBC bookstore (**https://www.rcbc.edu/bookstore**)**
- **Rowan University Partnership (**https://www.rcbc.edu/rowan**)**
- **Student Support Counseling (**https://www.rcbc.edu/counseling)
- **Tutoring (**https://www.rcbc.edu/tutoring**)**
- **Test Center (**https://www.rcbc.edu/test-center)
- **Transfer Services (**https://www.rcbc.edu/transfer**)**

This syllabus is subject to change at the instructor's discretion.

If at any time during this course you have a question or problem with anything, PLEASE reach out to me through either email or by Blackboard Course Messages. I will do whatever I can to address your issue or get you the appropriate help. I want you to succeed in this course.