UNION COUNTY COLLEGE MASTER COURSE SYLLABUS

COURSE NUMBER & NAME: CST 204 Database Management Systems

LECTURE/LAB HOURS: 3 lecture hours per week

CREDITS: 3

PREREQUISITES: CST 101, CST 130, or CST 161

COURSE DESCRIPTION:

The course concentrates on the principles, design, implementation, maintenance, and applications of database management systems. Topics include security, privacy, normalization, data modeling, data validation, user forms, reports, and Web connectivity. The structured queer language, SQL, will be used to process an industry-standard relations database management system.

COURSE LEARNING OUTCOMES:

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

1. Explain the importance of data models and how they are used, relational database operators, the data dictionary, and the system catalog
2. Summarize normalization and what role it plays in the database design process
3. List the characteristics of good primary keys and how to select them
4. Use the basic commands and functions of SQL
5. Design, implement, test, and evaluate databases as part of information systems
6. Describe database administration and the skills required by a DBA including communication and ethical skills.
7. Locate, discern, and effectively use information to solve issues and/or problems.

COURSE MATERIALS:

MindTap Computing, 1 term (6 months) Printed Access Card for Starks/Pratt/Last's Concepts of Databases
Flash drive or CD for storage of files

COURSE REQUIREMENTS:

- The successful completion of tests and final exam.
- The completion of all in-class assignments and projects.
- The completion of all assigned readings and homework.
- Attendance and class participation. Students are required to attend all classes. See the College Attendance Policy discussed in the UCC Catalog.

Experiential Learning:

Students must complete an experiential learning activity that connects course content to career applications. This activity may be a content specific assignment or practical skill that is applied within a course assignment. This assignment supports the general education learning outcomes of scientific/critical thinking and quantitative reasoning; oral and written communication; and information literacy/technological competency.

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ADA Statement:
Union County College offers reasonable accommodations and/or services to persons with disabilities. Any student who has a documented disability and wishes to self-identify should contact the Coordinator of Services for Students with Disabilities at (908) 709-7164, or email disabilitysvc@ucc.edu. Accommodations are ***individualized*** and in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1992. In order to receive accommodations, students must be registered with the Disability Services Office. Students should register with the office as soon as possible. Accommodations are not official until the Faculty Accommodations Alert Form(s) are issued from the student to his/her instructor(s).

FERPA Statement:
The Family Educational Rights and Privacy Act of 1974 (FERPA) guarantees that the academic records for students over 18 years old cannot be discussed with anyone except the student or authorized College personnel. However, certain information classified as "Directory Information" is available for public consumption unless the student specifically directs that it be withheld. Public Directory Information as defined by the act includes: Student's name, addresses (campus, home, e-mail), telephone listings, photograph, date and place of birth, major field of study, class year, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, enrollment status (e.g., undergraduate or graduate; full-time, half-time, part-time), degrees, honors, and awards received, and the most recent previous educational institution attended.

To enforce course objectives, all students in this course will be expected to complete homework assignments, complete database projects, and successfully complete examinations.
An essential element of this course includes information literacy. “Information Literacy” is the evaluation and assessment of integrated information. An understanding of its ramifications and implications through the critical use of information literacy will be discussed. Students will be able to

EVALUATION METHODS:

Grading Procedures

Tests	40%
Assignments	30%
Research paper	10%
Final exam	20%

Grading:

A	90 or above	C	70-76
B+	87-89	D+	67-69
B	80-86	D	60-66
C+	77-79	F	below 60

NOTE:
The instructor reserves the right to modify the course requirements, assignments, grading procedures and other related policies as circumstances may dictate.

****STUDENTS WITH PHYSICAL LEARNING DISABILITIES****

Any student with special needs that will affect performance in this class should feel free to make an appointment to talk with the instructor during office hours (or by appointment) or contact the disabilities counselor in the Counseling office on the Cranford Campus.

CLASS SCHEDULE:

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Time	Topic	Assignments/Readings/Activities
Week 1	Course Introduction Introduction to databases	Written Assignment: Define basic terms. Read corresponding information in text.
Week 2	Database systems	Written Assignment: Problems in database design Read corresponding information in text
Week 3	Data models	Research Paper: Explanation given. Written Assignment. Read corresponding information in text
Week 4	Data models continued	Written Assignment. Read corresponding information in text
Week 5	Relational databases	Test on material covered in previous weeks Research Paper: Topic due Written Assignment. Read corresponding information in text
Week 6	Entity relationship modeling	Written Assignment. Read corresponding information in text
Week 7	Developing and ER diagram	Test—material covered in weeks 4-6. Written assignment. Read corresponding information in text
Week 8	Normalization of database tables	Research Paper: Outline due. Written assignment. Read corresponding information in text
Week 9	Normalization and database design	Written assignment. Read information in text
Week 10	Structured Query Language	Test—material covered in weeks 7-9. Written assignment. Read information in text
Week 11	SQL continued	Written assignment. Read corresponding information in text
Week 12	Database design	Written assignment: Read text
Week 13	Transactions Data warehousing	Test—material covered in weeks 10-12. Written assignment. Read corresponding information in text
Week 14	Database Administration	Research Paper due. Read corresponding information
Week 15		Final Examination

SUGGESTED TEACHING METHODOLOGIES:

a. Lecture, group discussion, presentations, multimedia/technology, projects, experiments, demonstrations, etc.

b. Indication of the percentages or emphasis given to teaching methodologies used will assist faculty members in course preparation and implementation.

CORRELATION OF PROGRAM OUTCOMES, STUDENT OUTCOMES, AND ASSESSMENT

Program Outcomes Computer Information Systems & Technology	**Student Learning Outcomes**	**Assessment of Outcomes**
Design and create efficient databases	Define the difference between data and information, a database, the different types of databases, and the need for databases Explain the importance of data models and how they are used, relational database operators, the data dictionary, and the system catalog Summarize normalization and what role it plays in the database design process List the characteristics of good primary keys and how to select them Use the basic commands and functions of SQL Design, implement, test, and evaluate databases as part of information systems	Written: Exams, research paper, assignments. Verbal: Class discussion and responses, group discussion and responses
State the ethical responsibilities necessary for IT businesses and organizations	Describe database administration and the skills required by a DBA including communication and ethical skills.	Written: Exams, research paper, assignments. Verbal: Class discussion and responses, group discussion and responses
Apply problem solving skills to trouble-shoot and correct problems in a business environment.	Locate, discern, and effectively use information to solve issues and/or problems	Written: Exams, research paper, assignments. Case study. Verbal: Class discussion and responses, group discussion and responses

REVISED: SPRING 2019