INLS 623 – 001 Database Systems II: Intermediate Databasesi
School of Information and Library Sciences
University of North Carolina – Chapel Hill
Spring 2020

Faculty Information:	**Name:**	**Ramana Chamarty**
	Office:	100 Manning Hall CB# 3360, Chapel Hill, NC-27599
	Office hours:	By Appointment Only
	Phone Number:	(919) 962-8366
	Whatsapp/Mobile:	(267) 228-8344
	E-mail:	chamarty@email.unc.edu

Class Hours Location: Wednesday   5:45 PM – 8:15 PM
Manning – Room 208

Prerequisites: INLS 382 or 582, and 523. Intermediate-level design and implementation of database systems, building on topics studied in INLS 523. Additional topics include NoSQL, Data Analytic Document DB, Columnar DB and Data Quality and Governance.

Objective*:* The course will provide a foundation in designing and implementing database systems. Concepts introduced in this course aim to develop an understanding of the role of database systems in information systems and are crucial to good database design and systems development practices. At the completion of this subject, you should:
- Develop an appreciation of the role of databases in information systems of organizations.
- Be familiar with the conceptual, logical and implementation models of databases.
- Be able to create and modify relational databases and pose complex queries of relational databases.
- Be familiar with a broad range of data management issues including data integrity and security.
- Understand development of database applications and implementation of database concepts
- Develop a perspective on emerging issues in database design, development, and implementation.

Textbooks: **Recommended**
Modern Database Management – Jeffery A. Hoffer, V. Ramesh and Heikki Topi
Edition 13, Pearson Prentice Hall Publishing
ISBN 9780134773650

Assessment:

Assignments	30 %
Mid Term Exam	25 %
Project	10 %
Final Exam	25 %
Class Participation	10 %

All documents related to this course will be available from sakai (sakai.unc.edu)**.** You are expected to view/download the assignments in a timely manner.

Grading: Note that the SILS grading policy is based on the University Grading Policy. SILS uses the following graduate and undergraduate grading scales:

Description	Graduate	Undergraduate
Clear excellence	H	A
Entirely satisfactory	P	A-, B+, B, B-
Low Passing	L	C+, C, C-
Failed	F	D+, D, F

Accounts:

E-mail, Sakai

All students must have a UNC ONYEN account. If you need help, please go to http://help.unc.edu/ or call the help desk at 919 962 HELP. This will be needed for access to Sakai. Please make sure you update your Sakai profile with current information so that e-mails sent to the class reach a valid e-mail address that you use and have access to. You should ensure that your Sakai account works and provide you access to the needed courses before the beginning of second week of class.

Assignments: Three assignments will be given, one of which will require the use of SQL client. All assignments are due on the dates specified below and are to be submitted at the beginning of each class. An assignment is considered late if submitted after the beginning of the class. All assignments are required to be submitted in Sakai, please note that they are time stamped (unless otherwise stated). No late submissions will be accepted unless specifically allowed by the instructor prior to the deadline.Keep track of what is happening by checking the announcements on Sakai regularly.

Assignment #	Posted Date	Due Date
Assignment 1 – SQL	January 22nd, 2020	February 5th, 2020
Assignment 2 – ERD	February 5th, 2020	February 19th, 2020
Assignment 3 - Normalization	February 19th, 2020	February 26th, 2020

Project   The project would be a topic of your choice. It would involve identifying a problem/emerging database topic. You must submit your proposal by **February 5th, 2020** and the due date for submission of your deliverable is **April 15th, 2020.** The deliverable would be in the form of a TED video for a minimum of 3 min and maximum of 4 min. There would be 1 min for Q and A.

Exams   There will be two exams during the semester, a midterm and final. The final exam will include material covered prior to the mid-term exam. The dates and times are posted in the syllabus. Please plan accordingly.

Class Participation: Class participation will be evaluated at the end of each class meeting. In order to participate, you must be on time, present and participate in class and/or online. You are expected to have completed the reading assigned for the class and be ready to respond to questions and contribute to discussions (in class or electronically).

Honor Code   The UNC Honor Code is a long-standing student-administered judicial system. For information about the University Honor code and the culture of the Honor that underwrites all University activities, please see: https://studentconduct.unc.edu/. The full text of the "Instrument of Student Judicial Governance" is linked to this site.

Lecture Schedule:

This is a tentative outline of when the various topics will be covered. You are expected to have read the designated chapters prior to attending the class. Exams will generally be based on material covered in class, but not necessarily restricted to it.

Week	Date	Topic	Chapter
1.	January 8, 2020	Database Concepts	1
2.	January 15, 2020	Database Application Development	7
3.	January 22, 2020	Structured Query Language – basic	5
4.	January 29, 2020	Structured Query Language – Advanced	6
5.	February 5, 2020	Modelling Data in the Organization - Basic	2
6.	February 12, 2020	Modelling Data in the Organization - Advanced	3
7.	February 19, 2020	Logical Database Design and the Relational Mode (Normalization)	4
8.	February 26, 2020	Physical Database Design and Performance	8
9.	March 4, 2020	**Mid Term**	
10.	March 11, 2020	**Spring Break – No Class**	
11.	March 18, 2020	Transaction management and concurrency control	7
12.	March 25, 2020	Database Administration, Warehousing, Distributed databases, Analytics	9,11
13.	April 1, 2020	Big Data Technologies - NoSQL, Document DB, Graph DB	10
14.	April 8, 2020	Hands On / Demonstration of NoSQL, Analytics, Data Governance and Data Quality	12
15.	April 15, 2020	**Project Presentation - TEDs**	
16.	April 22, 2020	Final Review	
17.	April 30, 2020	**Final Exam 4:00 PM Manning 208**	

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[i] Please note the syllabus is subject to revision, including all schedules, dates, and distribution of assessment. While such changes are likely to be infrequent, you should keep track of all announcements, discussion, and documents on UNC Email and Sakai as well as announcements made in class on a daily basis.