INFX 502 – Database Concepts for Information Professionals (Fall 2016)
INFX 598 – Summer Quarter 2016

iSchool Course Description
INFX 502 – Database Concepts for Information Professionals (3Cr): Introduces the terminology and concepts of working with relational database management systems. Emphasizes working with tables and extracting information from data using Structures Query Language (SQL) commands and tools. Prepares students for advanced database design courses, web design, and programming courses. Credit/ no credit only. Prerequisite: none. (Prepares students for INFX 543 and INFX 563)

Degree Program:
Masters of Library and Information Science
Masters of Science in Information Management

Preparatory Info Tech Electives
This is one of a series of introductory level technology courses offered by the iSchool:

- Recommended for those students who need to prepare for the core info tech courses (54x/56x)
- They are all taught in distance (online) mode and do not have required on-campus residencies.

Course Justification
Relational databases are a key component of many modern information systems, and a deep understanding of these types of data structures is necessary for exploring other forms of representing and storing data. Graduate students of diverse background may lack a comprehensive understanding of how databases work, and those students with some technical skills often lack conceptual or theoretical knowledge required for thinking critically about data structures as the underlying foundation of information architecture. This course is intended to address those gaps and provide a uniform platform across Information School programs for other graduate electives in information technology.

Course Format
Learning about algorithms helps us improve our critical thinking and also helps us understand what software developers and their habits of mind. This course is a survey of the basic concepts that are common to all programming languages.

Our vehicle for understanding will be Microsoft Access, available free to course students. Access is chosen because it allows us to build and work with a database and end up with usable forms, reports and a completed application.

Learning Objectives
Upon completion of the course, the student will be able to:

- Explain and discuss the terminology and concepts of structured database systems
- Distinguish between “data” and “information”
- Describe how the concept of managing data as a resource has developed
- List the basic principles of the database approach.
• Define key terms and characteristics of the relational data model  
• Use entity-relationship (E-R) modeling techniques to develop modest data models  
• Design a small relational database by converting E-R diagrams to relational tables  
• Build a small relational database with linked tables  
• Create a user interface, including forms, subforms, controls, buttons, and switchboards.  
• Retrieve data from a relational database using Structured Query Language (SQL) or Query-by-Example (QBE) skills

**Course Syllabus (from Canvas)**

Each week will cover one module. The module week runs from Monday through Sunday with all "Module" assignments to be sent to your iPeer (reviewing partner) by Tuesday night of the week following. These assignments should be reviewed and returned three days later by Friday night.

Readings, videos, lectures and any discussion topics assigned will be posted on the Monday that the module starts on the Web page. Some assignments will have solutions sets; they are on the syllabus page. Module (week) number and Title are:

1. Getting Started with Microsoft Access  
2. Sort and Query a Database  
3. Forms, Filters, and Reports  
4. Enhancing Tables and Table Design Concepts  
5. Enhancing Queries. Table and Field Types and Names  
6. Customizing Forms and Reports. Key and Index fields  
7. Creating Advanced Forms and Reports. Relationships and Referential Integrity  
8. Creating and Understanding Macros and Data Normalization  
9. Customizing Forms and Reports. Relationships and Referential Integrity  
10. Wrap-up

**Assessment**

Each major subject area will have one or more tests, lab exercises, or worksheets to be completed. There is no comprehensive final project developed throughout the course.

**Textbook**

GO! with Microsoft Access 2016 Comprehensive  
by Shelley Gaskin and Nancy Graviett  
Publisher: Pearson (Spiral Bound, 784 pp)  
Published: 03/28/2016

**Suggested Readings, Films, Websites, Etc.**

Select Web-based readings and documents are assigned to supplement the material and technologies presented during the lectures.