

# DATA 620 Database Technologies Spring 2018 Syllabus

**Instructor:** Dr. Angela Berardinelli

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**Class Times:** TuTh 5:00-6:15PM

**Class Location:** Old Main, Main Lab

**Office Hours:** MW 3:00-4:30PM, MWF 12:30-1:30PM, or e-mail to request an appointment

**Course Webpages:** [math.mercyhurst.edu/~aberardine/classes/DATA620](http://math.mercyhurst.edu/~aberardine/classes/DATA620) and [math.mercyhurst.edu/moodle](http://math.mercyhurst.edu/moodle)

## 1 Course Description

A course in relational and non-relational databases, with MySQL and MongoDB as the tools of choice. Students will study SQL, database administration, database design, the differences between relational and NoSQL databases and their respective advantages, and the particulars of MySQL and MongoDB. 3 credits.

**Prerequisites:** None.

## 2 Course Objectives

A student who successfully completes this course will be able to:

- explain the difference between relational and nonrelational database models;
- compare and contrast NoSQL models including MongoDB, Cassandra, and graph databases;
- write DML queries for both relational and NoSQL databases.

## 3 Grading

**Final Grade Calculation:**

	Percentage of Final Grade
Exams (3)	20% each
Project Proposal	10%
Final Project Report	20%
Final Project Meeting	10%

**Letter Grade Scale:**

If you have a weighted  
average of at least:   90%   85%   80%   75%   70%   65%   60%   0%  
then you will earn a(n):   A   B+   B   C+   C   D+   D   F

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## 4 Exams

We will have four in-class exams. Your lowest exam score will be dropped when computing your final grade.

- Exam 1: Thursday, March 1 (SQL and relational databases)
- Exam 2: Thursday, March 22 (document databases and MongoDB)
- Exam 3: Tuesday, April 17 (graph databases)
- Exam 4: Tuesday, May 1 (column-store databases and Cassandra)

## 5 Project Deadlines

You will receive more information about the course project later in the semester. Here are the important dates and deadlines:

- Tuesday, February 27: Project Proposal Due
- If you wish to make any changes to your project after the initial proposal, a revised and final proposal is due Tuesday, March 27.
- Tuesday, May 1 - Friday, May 11: Meet one-on-one to discuss your project results.
- Friday, May 11: Project Report due

## 6 Course Policies

**Attendance:** Students are responsible for all information (notes, announcements, etc.) given in class, regardless of attendance.

**E-mail:** You can always e-mail me with course-related questions or to request an appointment outside of office hours. However, you should allow up to 2 days for a reply to your e-mail. Also, you should not e-mail me with questions about your grade; to discuss your grade please meet with me in person in my office. Sometimes, I will need to send out e-mail communications to the class. These communications will be sent to your Mercyhurst account. I will not send to any other e-mail account you may use, so be sure you have access to your Mercyhurst account and check it often enough to receive these important announcements in a timely manner.

**Academic Integrity:** Cheating and plagiarism in any form are serious offenses and will be dealt with as such. I ask you not to cheat in this course in any way, shape, or form. Some forms of cheating are pretty straightforward (for example, glancing at another student's paper during an exam or quiz and using some or part of their answer on your own exam). Other forms of cheating, plagiarism, and academic dishonesty are less obvious, especially in the world of technology. Please reference the link on the course website (or [click here](#)) for (1) what constitutes cheating and/or plagiarism in this course - so that you may avoid these behaviors - and (2) what the consequences will be for students who do not demonstrate academic integrity in this course.

**Regarding Learning Differences:** In keeping with college policy, any student with a disability who needs academic accommodations must call Learning Differences Program secretary at 824-3017, to arrange a confidential appointment with the director of the Learning Differences Program during the first week of classes.

**Support of the Mercy Mission:** This course supports the mission of Mercyhurst University by creating students who are intellectually creative. Students will foster this creativity by: applying critical thinking and qualitative reasoning techniques to new disciplines; developing, analyzing, and synthesizing scientific ideas; and engaging in innovative problem solving strategies.

**Final Note:** This syllabus is subject to change if deemed necessary. Any syllabus changes or addendum will be communicated in class.