

Applied Information Technology Department

IT 214: Database Fundamentals

Course Syllabus

Summer 2014

This syllabus contains information common to all sections of IT 214 for the Summer 2014 semester. For each section, a customized syllabus with information specific to that section will be made available to registered students via the [Blackboard Learning System](#).

Logistics

Detailed information on all IT 214 sections offered in the Summer 2014 semester including the day, time, location, instructors' names and their contact information is available through the [Schedule of Classes](#) posted on PatriotWeb.

Course Description

**IT Information Technology
214 Database Fundamentals (3:3:0)**

IT 103

Introduces relational database management systems and their applications. Students learn about types of databases, data modeling, designing relational databases, normalization and relationships, and recent trends in database management, including web applications. Students apply learned concepts using modern database application to create tables, queries, forms, and reports.

From <http://catalog.gmu.edu/>

Prerequisites

The prerequisite for this course is IT 103. A grade of "C" or better **must** be achieved in the prerequisite courses **before** a student is qualified to take this course. The prerequisite courses must be completed prior to, not concurrently with, this course.

This requirement will be **strictly enforced**. Any student who does not meet the prerequisite requirement will be dropped from the course by the Instructor at the start of the semester and the student will be responsible for any consequences of being dropped.

Rationale

For many businesses, processing information is the key component of their corporate strategy and crucial to their profitability. Databases provide a convenient means of storing large amounts of data, allowing it to be sorted, searched, viewed, and manipulated according to the business needs and goals. Many companies rely so heavily on the functions of databases that their daily business operations cannot be executed if databases are unavailable, making database management and maintenance a vital component of their business models. This course is intended to develop understanding of database fundamentals, introduce students to currently available technologies and tools, and examine typical applications of those technologies to real-world situations.

Objectives

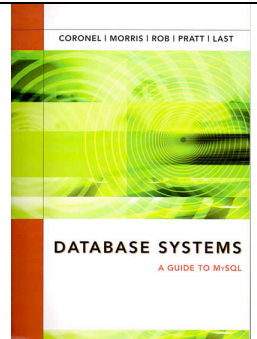
On successful completion of this course, students will be able to:

- Use modern techniques of data organization and access in a database environment
- Describe the importance of database modeling and design
- Understand and work with the relational database model and ERD
- Design and create multiple tables, table relationships, and queries using SQL
- Understand what transaction management and concurrency control are
- Have solid understanding of different types of databases

References

Textbook

There is one required textbook for this course listed below. It is a special GMU edition of the textbook. You can purchase it at the GMU Bookstore at <http://gmu.bncollege.com/>

	<p><i>Database Systems: Design, Implementation, and Management with Guide to MySQL</i>, Special Edition for George Mason University, by Pratt, Last, Rob and Coronel</p> <p>ISBN-10: 1111723990 ISBN-13: 9781111723996</p> <p>Format: Paper</p> <p>Publisher: Thomson Course Technology, 2010</p> <p>Publisher's web-site: www.cengage.com</p>
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The special GMU edition of the textbook listed above was created from **two** different textbooks:

- *Database Systems: Design, Implementation and Management* by C. Coronel, S. Morris, P. Rob
ISBN-10: 0538748842
ISBN-13: 978-0538748841
9th edition
- *A Guide to MySQL* textbook by P. Pratt, M. Last
ISBN-10: 1418836354
ISBN-13: 978-1418836351
1st edition

You can purchase two books that are used for the special GMU edition separately. If you do choose to acquire your textbooks separately, please triple check the ISBN numbers so that you are obtaining the right textbooks and the right editions of the textbooks. **You are responsible for obtaining the correct textbooks for the course.**

Faculty and Staff

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Grading

Grades will be awarded in accordance with the Mason Grading System for undergraduate students. See the university catalog for policies: <http://catalog.gmu.edu> for more information.

The grading scale for this course is:

97 – 100%	A+	Passing
93 – 96%	A	Passing
90 – 92%	A-	Passing
87 – 89%	B+	Passing
83 – 86%	B	Passing
80 – 82%	B-	Passing
77 – 79%	C+	Passing
73 – 76%	C	Passing
70 – 72%	C-	<i>Passing*</i>
60 – 69%	D	<i>Passing*</i>
0 – 59%	F	Failing

* Grades of "C-" and "D" are considered passing grades for undergraduate courses. However, a minimum grade of "C" is required in the BSIT program for any course that is a prerequisite for one or more other courses. This course is a prerequisite for several courses in BSIT Concentrations – see <http://www.gmu.edu/catalog/courses/it.html> for more information on those courses.

Raw scores may be adjusted by the Instructor to calculate final grades.

Students are responsible for checking the currency of their grade books. Grade discrepancies must be brought to instructor's attention within one week of assignment submission and 48 hours of exam submission.

Final grades will be determined based on the following components:

Quizzes	5%
Practice Problems (including 1 st MS Visio and Confirm Access to MySQL)	5%
Homework Assignments	10%
Project	20%
Midterm 1	25%
Final Exam	35%

These components are outlined in the following sections.

Quizzes

Quizzes will be assigned every week during the first five classes of the course. Each quiz is to be prepared and submitted as specified by the Instructor.

Homework Assignments and Practice Problems

Homework and Practice Problems will be assigned every class during the semester. Each assignment is to be prepared and submitted as specified by the Instructor. Late assignments may not be accepted – if accepted, a penalty may be applied. Acceptance of late assignments and/or application of penalties will be at the sole discretion of the Instructor.

Project

Each student individually will prepare and submit a project in accordance with requirements to be discussed in class and published on the [Blackboard Learning System](#). Late projects may not be accepted – if accepted, a penalty may be applied. Acceptance of late projects and/or application of penalties will be at the sole discretion of the Instructor.

Extra-credit

Students can earn extra-credit by preparing a recorded presentation on selected database topics. Topics must be discussed with and approved by the instructor in advance.

Mid-term exam: Test 1

Test 1 will be based on topics addressed during Weeks 1-3. Test 1 will be “closed book, closed notes” – no reference materials other than those provided with the exam paper will be permitted.

Final exam

The final exam will be held during the scheduled final exam session (see <http://registrar.gmu.edu>) and will be based on topics addressed throughout the entire course. The final exam will be “closed book, closed notes” – no reference materials other than those provided with the exam paper will be permitted. Final exams will be retained by the [Department of Applied Information Technology](#) and will not be returned to students.

NET Session: The midterm exam and the final exam will NOT be online. Exams will be held during the scheduled exam sessions. It would be taken in person in class. Proof of ID is required. The location and time of the exams would be announced during the semester. If the student cannot attend an exam due to schedule conflicts, he must contact the instructor in advance to schedule an alternative date and time for the exam.

No make-up for any activity including exams, unless arranged in advance. Only in special cases, such as medical problems and family emergency, make-ups and late assignments may be allowed with verifiable proof. Arrive promptly to exams. Late students may not be admitted.

Final grades will be posted to [PatriotWeb](#), which is the only vehicle for students to obtain those grades. A student with a "hold" on his/her PatriotWeb account will be unable to access final grades until the hold has been removed by the Registrar.

Schedule

A detailed schedule will be published on Blackboard. As many factors may affect the development and progress of a class, the instructor reserves the right to alter the schedule as may be required to assure attainment of course objectives. The schedule is subject to revision before and throughout the course.

Registered students should see the [Blackboard Learning System](#) for the latest class schedule.

Important Dates

Dates for dropping, adding the course etc. are available via <http://registrar.gmu.edu/calendars/>

Religious Holidays

A list of religious holidays is available on the [University Life Calendar](#) page. Any student whose religious observance conflicts with a scheduled course activity must contact the Instructor **at least 2 weeks in advance** of the conflict date in order to make alternative arrangements.

Attendance Policy

Students in in-class sections are expected to attend each class, to complete any required preparatory work and to participate actively in lectures, discussions and exercises. As members of the academic community, all students are expected to contribute regardless of their proficiency with the subject matter.

Students are expected to make prior arrangements with Instructor if they know in advance that they will miss any class and to consult with the Instructor as soon as possible if they miss any class without prior notice. Any student who expects to miss more than one class session is strongly advised to drop the course and take it in a later semester when he/she can attend every class.

Departmental policy requires students to take exams at the scheduled time and place, unless there are truly compelling circumstances supported by appropriate documentation. Except in such circumstances, failure to attend a scheduled exam will result in a score of zero (0) for that exam, in accordance with [Mason policy on final exams](#). Students should not make travel plans or other discretionary arrangements that conflict with scheduled classes and/or exams. If the University is closed due to weather or other unforeseen conditions, final exams may be rescheduled – students are strongly advised not to make plans that would prevent them from attending exams that may be rescheduled during the entire exam period.

NET Version attendance: During each week the students must perform all the requirements published for that week. A detailed week-by-week schedule of classes will be published on the net version of the course.

Classroom conduct

Students are expected to conduct themselves in a manner that is conducive to learning, as directed by the Instructor. Any student who negatively impacts the opportunity for other students to learn will be warned – if disruptive behavior continues, the student will be asked to leave the classroom.

Electronic devices are potential distractions in the classroom environment. Cell phones, pagers and other handheld devices must be turned off or set to "silent" mode and not used while class is in session. Laptop computers and similar devices may be used only if such use is directly related to the classroom activity in progress – for some activities the Instructor may require that such devices not be used in order to maximize student engagement.

Communications

Registered students will be given access to a section of the [Blackboard Learning System](#) for this course. Blackboard will be used as the primary mechanism (outside of lectures) to disseminate course information, including announcements, lecture slides, homework and other assignments, and scores for homework and exams.

Communication with the Instructor on issues relating to the individual student should be conducted using Mason email, via telephone, or in person - **not** in the public forums on Blackboard. Mason Mail is the preferred method – for urgent messages, you should also attempt to contact the Instructor via telephone. Federal privacy law and Mason policy require that any communication with a student related in any way to a student's status be conducted using secure Mason systems – if you use email to communicate with the Instructor you **MUST** send messages from your Mason email account.

When sending an e-mail to the instructor, please include the following:

- **Course number**
- **Section number**
- **Your full name**

Privacy

Instructors respect and protect the privacy of information related to individual students.

As described above, issues relating to an individual student will be discussed via email, telephone or in person. Instructors will not discuss issues relating to an individual student with other students (or anyone without a need to know) without prior permission of the student.

Assessable work other than final exams will be returned to individual students directly by the Instructor (or by a faculty or staff member or a Teaching Assistant designated by the Instructor, or via another secure method). Under no circumstances will a student's graded work be returned to another student.

Faculty and staff will take care to protect the privacy of each student's scores and grades.

Disability Accommodations

[The Office of Disability Services \(ODS\)](#) works with disabled students to arrange for appropriate accommodations to ensure equal access to university services. Any student with a disability of any kind is strongly encouraged to register with ODS as soon as possible and take advantage of the services offered.

Accommodations for disabled students **must** be made in advance – ODS cannot assist students retroactively, and at least one week's notice is required for special accommodations related to exams. Any student who needs accommodation should contact the Instructor during the first week of the semester so the sufficient time is allowed to make arrangements.

Honor Code

All members of the Mason community are expected to uphold the principles of scholarly ethics. Similarly, graduating students are bound by the ethical requirements of the professional communities they join. The ethics requirements for some of the communities relevant to Applied IT graduates are available via the following links:

- [ACM Code of Ethics and Professional Conduct](#)
- [IEEE Code of Ethics](#)
- [EC-Council Code of Ethics](#)

On admission to George Mason University, students agree to comply with the requirements of the [Mason Honor System and Code](#). The Honor Code will be strictly enforced in this course. Honor Code cases are heard by a panel consisting of students – students who meet the requirements are encouraged to nominate themselves to serve on the Honor Committee.

Any use of the words or ideas of another person(s), without explicit attribution that clearly identifies the material used and its source in an appropriate manner, is **plagiarism** and will not be tolerated. The Instructor reserves the right to use manual and/or automated means (including such services as [SafeAssign.com](#)) to detect plagiarism in any work submitted by students for this course, and to direct Teaching Assistants and/or other faculty and/or staff members to do likewise in support of this course.

For this course, the following requirements are specified:

- All assessable work is to be prepared by the individual student, unless the Instructor explicitly directs otherwise.
- All work must be newly created by the individual student for this course for this semester. Any usage of work developed for another course, or for this course in a prior semester, is strictly prohibited without prior approval from the instructor.

Students may seek assistance with assigned work (and are encouraged to do so if they feel the need), **provided:**

- The directions for the assigned work do not prohibit such assistance.
- Such assistance is acknowledged in the submitted work, clearly identifying the person(s) giving assistance and the nature of the assistance given.
- Any work to be submitted is prepared entirely and exclusively by the student submitting it. Students are expressly prohibited from sharing any assessable work for this course in any manner with other students (except students assigned as Teaching Assistants or Undergraduate Peer Mentors to this course and the student's section), unless all students involved have had their work graded and returned by the Instructor, or the Instructor has explicitly approved such sharing.

NET Sections only:

For the net section you will need to have the following additional resources:

- Computer with fast internet connection
- Microphone and web camera (recommended)