Syllabus

This syllabus is applicable for all sections in Spring 2020.

Catalog Description:

Covers fundamentals of relational database management systems and their use in business environments. Topics include: database classifications, data models with extensive coverage of the relational model, entity-relationship and extended entity-relationship models, normalization, advanced data modeling, and Structured Query Language (SQL) programming. Students design and implement a real-world relational database and create complex SQL queries to retrieve data from the database.

Expected outcomes:

- Students understand and describe the database lifecycle and representative tools and methods involved.
- Students understand, develop, and analyze relational database models.
- Students understand and apply database model normalization.
- Students understand and describe the role and main elements of the Structured Query Language (SQL)
- Students understand, develop, and analyze SQL commands to create, update, and query a database.
- Students develop a small database based on real-world examples, by creating a model, implementing the model using SQL, populating the model with data and querying the model in a meaningful way.

Supported Student Outcomes at the Program Level

(1) An ability to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
(2) An ability to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.
(6) An ability to identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing-based systems.

Prerequisites:

IT103/IT104/CS112 with a minimal grade of C. Database knowledge taught in IT104 is required.
Course EMAIL Communication

When you use email communication in the course it is important to follow the rules below:

- **IN BLACKBOARD:**
  - Do not use ALL INSTRUCTORS or ALL GTAS option as there are other persons recorded on such positions

- **OUTSIDE BLACKBOARD:**
  - SUBJECT: Start with “IT390-001” then follow with the issue
  - CC: all responsible parties (i.e. for a GTA grading issue that you escalate to instructor, include the GTA)

Sections, Instructors, GTAs

The course has multiple sections. More specific details related to your section are posted on the Blackboard. Please consult Blackboard for contact information and office hours.

<table>
<thead>
<tr>
<th>Section</th>
<th>Instructor</th>
<th>GTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 214 001</td>
<td>Daniel Zhang (P)</td>
<td>Stephanie Olson</td>
</tr>
<tr>
<td>IT 214 003</td>
<td>Esteban De Jesus Lopez (P)</td>
<td>Sravya Pagadala</td>
</tr>
<tr>
<td>IT 214 004</td>
<td>Priyanka Ambre (P)</td>
<td>Nikhil Babu Kuppala</td>
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<tr>
<td>IT 214 005</td>
<td>Lam Phung (P)</td>
<td>Arsadur Rahman</td>
</tr>
<tr>
<td>IT 214 006</td>
<td>Esteban De Jesus Lopez (P)</td>
<td>Sravya Pagadala</td>
</tr>
<tr>
<td>IT 214 007</td>
<td>Emilia Virginia Butu (P)</td>
<td>Arsadur Rahman</td>
</tr>
<tr>
<td>IT 214 008</td>
<td>Lam Phung (P)</td>
<td>Arsadur Rahman</td>
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<tr>
<td>IT 214 009</td>
<td>Hadi Rezazad (P)</td>
<td>Arsadur Rahman</td>
</tr>
<tr>
<td>IT 214 010</td>
<td>Priyanka Ambre (P)</td>
<td>Nikhil Babu Kuppala</td>
</tr>
<tr>
<td>IT 214 DL1</td>
<td>Valeriy Pavlenko (P)</td>
<td>Stephanie Olson</td>
</tr>
<tr>
<td>IT 214 DL2</td>
<td>Emilia Virginia Butu (P)</td>
<td>Shinoj Kumar</td>
</tr>
</tbody>
</table>

Schedule

Please consult Blackboard for specific schedule information.
Course Coordinator

Dr. Mihai Boicu
- You must contact the course coordinator only after you contacted and tried to resolve an issue with your course instructor and/or assigned GTA.
- You may contact the course coordinator for general feedback related to the course or for specific complaints.
- Phone: (703) 993-1591 (M-F 9AM-3PM)
- Email: mboicu@gmu.edu (start email subject with IT390-section COORDINATOR)
- Office hours by appointment, send me 5 large time intervals.

Required Textbook

The following is the current required textbook, it is a special GMU edition of the textbook. You can purchase it at the GMU Bookstore at http://gmu.bncollege.com/. This textbook will be only recommended starting in FALL 2020.

ISBN-10: 1111723990
Format: Paper
Publisher: Thomson Course Technology, 2010
Publisher’s web-site: www.cengage.com

The special GMU edition of the textbook listed above was created from two different textbooks:

  ISBN-10: 0538748842
  9th edition
- A Guide to MySQL textbook by P. Pratt, M. Last
  ISBN-10: 1418836354
  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.**

Additional readings, tutorials and online materials will be recommended during the course.

For this section only, the textbook is not required. However, it is strongly recommended, mostly if you need a structured presentation of the material and you are less of a web-learner.

### Course Structure

The course has the following parts:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes (Homework)</td>
<td>5 %</td>
</tr>
<tr>
<td>Assignments (Homework)</td>
<td>10 %</td>
</tr>
<tr>
<td>Project</td>
<td>20 %</td>
</tr>
<tr>
<td>Midterm 1 (In-person for all sections)</td>
<td>20 %</td>
</tr>
<tr>
<td>Midterm 2 (In-person for all sections)</td>
<td>20 %</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25 %</td>
</tr>
</tbody>
</table>

#### Quizzes (Homework)

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.

#### Assignments (Homework)

Homework will be assigned every class during the semester. Each homework assignment is to be prepared and submitted as specified by the Instructor. Late homework may not be accepted – if accepted, a penalty may be applied. Acceptance of late homework 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.

#### Midterm 1 and Midterm 2

Test 1 will be conducted during the scheduled class session 6 and will be based on topics addressed in Classes 1-5. Test 2 will be conducted during the scheduled class session 11 and will be based on topics
addressed in Classes 7-10. Both Test 1 and Test 2 will be “closed book, closed notes” – no reference materials other than those provided with the exam paper will be permitted.

**NET Session:** The Mid-term exams will NOT be online. It would be taken in person in class. Proof of ID required. The location and time of the exams would be announced during the semester. If the student cannot attend the exam due to schedule conflicts, he/she may take the exam during the same week at Fairfax Campus at a date and time established by the instructor.

**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 Information Sciences and 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.

**Make-up Exams**

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**

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.
Grading Scale

The grading scale for this course is:

<table>
<thead>
<tr>
<th>Numeric Grade</th>
<th>Letter Grade</th>
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</thead>
<tbody>
<tr>
<td>97 – 100%</td>
<td>A+</td>
</tr>
<tr>
<td>93 – 96%</td>
<td>A</td>
</tr>
<tr>
<td>90 – 92%</td>
<td>A–</td>
</tr>
<tr>
<td>87 – 89%</td>
<td>B+</td>
</tr>
<tr>
<td>83 – 86%</td>
<td>B</td>
</tr>
<tr>
<td>80 – 82%</td>
<td>B–</td>
</tr>
<tr>
<td>77 – 79%</td>
<td>C+</td>
</tr>
<tr>
<td>73 – 76%</td>
<td>C</td>
</tr>
<tr>
<td>70 – 72%</td>
<td>C–</td>
</tr>
<tr>
<td>60 – 69%</td>
<td>D</td>
</tr>
<tr>
<td>0 – 59%</td>
<td>F</td>
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</tbody>
</table>

Hardware and Software requirements

For all sections you must have a personal computer with internet connection. It is strongly recommended that you have a powerful enough laptop on which you can perform code development that you can bring to class.

For the online section you must have a personal computer with internet connection, with speakers and microphone.

We require either a Mac OS X or Windows 10 computer.

Course Delivery Methods

The course will be delivered using various methods. You must have your MASON email account activated and you must check your email daily for announcements related to the course. You must have access to Blackboard Learning System and to know how to use its features.

There are video presentations posted on the Blackboard. You must have an environment in which you can watch these videos.

You will have several assignments and assessments to be performed each week. A summary of weekly requirements will be sent at the beginning of the week.
COURSE CANCELED (SNOW DAYS)

If the courses are canceled the first option is to have a synchronous meeting online during the same times. If you cannot be online the course will be recorded and posted on the course Blackboard site.

Intellectual Property

There is a strong recommendation that all work in the class projects to be done based on an open source license (e.g. Academic Free License http://en.wikipedia.org/wiki/Academic_Free_License). This will allow a rich, shared exchange of ideas and will allow each member of the class to further benefit with no restriction from the work performed in the class.

Privacy

Instructors respect and protect the privacy of information related to individual students. Specific 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. There is no guarantee related to the security of email and telephone conversations.

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.

Because of the nature of this class, some work performed by the student will be published and discussed in the class. Other students will be able to make comments and suggestions related to the published work, without seeing the actual grade the student earned for the work.
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 Mason, students agree to comply with the requirements of the Mason Honor System and Code¹. 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. There is a "zero tolerance" policy for plagiarism within The Volgenau School. The Instructor reserves the right to use manual and/or automated means (including such services as Turnitin.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.

For team work a summary at the end of the submission must identify mutually agreed individual contributions.

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 an exclusively by the student submitting it.

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.