MIS 491, Software and Data Quality Management, 3 Credits

1. General Course Information
Location: East 201, Fairfax Campus
Time: Wednesday 7:20-10:00 PM - January 22nd, 2014 through May 7th, 2014
Course Homepage: Blackboard CE6 (see Course Materials section below)
Prerequisites: MIS 301 (grade of at least C)
THIS SYLLABUS IS SUBJECT TO REVISION AS NEEDED

2. Instructor Information
Professor: Greg Hampe (adjunct)
Email: ghampe@gmu.edu
Office Hours: Wednesdays 6:00-7:00 PM (by appointment only)

3. Course Objectives
Organizations seek greater levels of reliability and predictability in their IT solutions and the data they provide. Critical systems must work and data must be readily available and trusted. This course covers the management of the quality function in the system lifecycle, focusing on the software creation and maintenance and the data it supports. Topics will include integration of quality methods into the lifecycle, quality frameworks, quality assurance, stakeholder involvement, system validation, risk based decisions, problem management, regulatory requirements regarding quality, CMMI evaluation, Data quality, and evaluating the proper level of investment in quality.

This course should be relevant to students looking to work in either vendor organizations that deliver quality IT Solutions, or within organizations seeking to ensure the quality of their solutions and data. An overarching theme in this course will be evaluating the appropriate level of quality controls for a project, and system and an organization. This course will require a healthy level of discussion on the evolving nature of quality within an organization.

- Students will
  - Understand the role quality and quality controls within the Software Life Cycle.
  - Learn about various development methodologies incorporating quality.
  - Learn the basics concepts of managing the quality function within a project.
  - Understand the drivers of managing Data Quality.
  - Evaluate approaches to software quality management.

4. Required Course Materials

- Hardcopy online at Amazon.com
- E-book at Amazon.com (a Kindle version that can be ported to PC) Practical-Software-Quality-Management
- Several other eBook vendors – ensure it is the SECOND EDITION
- Other printed online stores

Cases:
There are two required case studies and one chapter, listed below.
Three items are available for purchase from Harvard Business School Press or purchased through our course listing at the HBSP website: https://cb.hbsp.harvard.edu/cbmp/access/24718404

<table>
<thead>
<tr>
<th>Cases for Purchase at HBSP</th>
<th>Authors</th>
<th>Publication Date</th>
<th>Case #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CMM versus Agile: Methodology Wars in Software Development</td>
<td>Robert D. Austin</td>
<td>9/10/2008</td>
<td>607084-PDF-ENG</td>
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<td>2. Jharna Software: The Move to Agile</td>
<td>Indranil Bose; Ming-Hui Huang; Minyi Huang</td>
<td>12/11/2006</td>
<td>HKU613-PDF-ENG</td>
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<tr>
<th>Reading for Purchase at HBSP</th>
<th>Author</th>
<th>Publication Date</th>
<th>Item #</th>
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<tbody>
<tr>
<td>Assessing and Improving Data Quality</td>
<td>Thomas C. Redman</td>
<td>9/22/2008</td>
<td>08-076</td>
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**Optional Books:** These books are not required, but may be of interest to students looking for more depth on the topics covered in class (more to come).

5. Tentative Course Schedule

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<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>1/22/2014</td>
<td>Syllabus, Exploring Quality</td>
<td>Syllabus (Horch) Chapter 1 (not required reading for first class – we will cover).</td>
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<tr>
<td>1/29/2014</td>
<td>LifeCycle</td>
<td>(Horch) Chapter 1 - Continued</td>
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<tr>
<td>2/5/2014</td>
<td>LifeCycle</td>
<td>(Horch) Chapter 2: Standards</td>
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<tr>
<td>2/12/2014</td>
<td>What builds quality in</td>
<td>(Horch) Chapter 3: Reviews</td>
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<tr>
<td>2/19/2014</td>
<td>What verifies and validates</td>
<td>(Horch) Chapter 4: Testing</td>
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<tr>
<td>2/26/2014</td>
<td>How do we measure good enough</td>
<td>(Horch) Chapter 5: Defects</td>
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<tr>
<td>3/5/2014</td>
<td>Data Quality</td>
<td>(Redman) Assessing and Improving Data Quality</td>
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<tr>
<td>3/12/2014</td>
<td>SPRING BREAK</td>
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<td>Date</td>
<td>Event</td>
<td>Details</td>
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<td>3/19/2014</td>
<td>Case Study 1: CMM vs Agile</td>
<td>In class slides and materials (HBSP) CMM versus Agile: Methodology Wars in Software Development</td>
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<tr>
<td>3/26/2014</td>
<td>Associated topics</td>
<td><em>(Horch)</em> Chapter 6: Configuration Management</td>
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<tr>
<td>4/2/2014</td>
<td>Case Study 2 – Writeup</td>
<td>(HBSP) Jharna Software: The Move to Agile</td>
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<td>4/16/2014</td>
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<td><em>(Horch)</em> Chapter 8: Safety</td>
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<td>4/23/2014</td>
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<td><em>(Horch)</em> Chapter 9: Risk</td>
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<tr>
<td>4/30/2014</td>
<td>Paper Due</td>
<td><em>(Horch)</em> Chapter 10: Documentation</td>
</tr>
<tr>
<td>5/7/2014</td>
<td>Final Exam</td>
<td><em>(Horch)</em> Chapter 11: Implementation</td>
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6. **Grading and Assessment**

**Resume:** 2% (individual assessment)

**Short Writing:** (4 at 2% each) 8% (individual assessment)

**Case Write up:** 15% (individual assessment)

**Group Presentation:** 10% (group assessment)

**Paper:** 15% (individual assessment)

**Final Exam:** 35% (individual assessment)

**In-class Participation:** 15% (individual assessment)

**Total:** 100%

**Resume:** You are required to submit an up-to-date resume by the beginning of the second class. Your resume should include a picture of yourself, contact information, a section on your education, a section on your work experience, a section on your relevant business and technical skills, and any other pertinent information (particularly if you have any experience with the quality function on a software development).

**Short Writing:** You will need to submit four short (1 page or less) writings in response to topics posted for several of the chapter readings. Topics will be supplied in the prior class and submission will be online. There will be more than four to choose from, but only four responses fulfill this assignment.

**Group Presentation:** The group presentation is worth 10% of the course grade and will be due during the first half of the semester. Choice of topics will be provided to you. Groups will be assigned for this one assignment.

**Case Write up:** For a specified assigned case study, you will need to submit a longer form response to questions posted for the case. Questions will be supplied in the prior class and submission will be online.

**Paper:** The term paper is worth 15% of the course grade and will be due at the final class meeting. You will submit the topic in advance (more on this).
Final Exam: The final exam is worth 35% of the course grade and will be held during the scheduled final exam period. The exam will be closed book and closed notes and will be comprehensive (i.e., cover all materials and content used in class).

In-class Participation: 15% of your course grade will be based on your participation in class. This will be an evaluation of your preparation for and involvement in class discussions and exercises. Since MIS 491 will be heavily discussion-based, absences take away from the learning of the entire class. Participation will be evaluated primarily on the quality of contributions.

Grading Scale:
Grade Percentage
A greater than or equal to 93%
A- greater than or equal to 90% but less than 93%
B+ greater than or equal to 87% but less than 90%
B greater than or equal to 83% but less than 87%
B- greater than or equal to 80% but less than 83%
C+ greater than or equal to 75% but less than 80%
C greater than or equal to 70% but less than 75%
D greater than or equal to 60% but less than 70%
F less than 60%

7. Student Responsibilities
Students are expected to attend class each week and to participate in class discussions and exercises. Students are expected to complete assignments on time. Students are expected to contribute equally to all group project work. Students are expected to respect their instructor and fellow classmates, both in and out of the classroom environment. Students are expected to turn off or silence their mobile phones during class time.

8. Email Communication
By policy of the University and to help protect confidentiality, students must use their MasonLive email account to receive important University information, including messages related to this class. See http://masonlive.gmu.edu for more information.

9. Learning Goals
Learning goals for the Undergraduate Programs
1. Our students will be competent in their discipline.
2. Our students will be aware of the uses of technology in business.
3. Our students will be effective communicators.
4. Our students will have an interdisciplinary perspective.
5. Our students will be knowledgeable about global business and trade.
6. Our students will recognize the importance of ethical decisions.
7. Our students will be knowledgeable about the legal environment of business.
8. Our students will be knowledgeable about team dynamics and the characteristics of effective teams.
9. Our students will understand the value of diversity and the importance of managing diversity in the context of business.
10. Our students will be critical thinkers.

Learning Goals of the Information Systems and Operations Management Program
1. Apply knowledge of information technology and business functions to understand its application in assessing, designing and improving business processes.

2. Develop data organization, storage and processing solutions to support organizational needs for information management. They will also have the option of developing skills in the area of supporting decision making through business intelligence solutions.

3. Use knowledge of computer networks as part of the IT solutions for improving business processes. They will also have the option of developing more advanced skills in the areas of network and security.

4. Effectively manage information technology projects.

5. Understand the overall systems development life cycle and be able to recommend IT system solutions accordingly. They will also have option of learning appropriate development tools to develop prototype of IT solutions for business management.

10. Honor Code Statement
GMU is an Honor Code university; please see the Office for Academic Integrity for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else’s work in an aspect of the performance of that task, you will give full credit in the proper, accepted form.

Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

11. Students with Disabilities
If you are a student with a disability and you need academic accommodations, please contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS.

10. Statement on Diversity
George Mason University promotes a living and learning environment for outstanding growth and productivity among its students, faculty and staff. Through its curriculum, programs, policies, procedures, services and resources, Mason strives to maintain a quality environment for work, study and personal growth.

An emphasis upon diversity and inclusion throughout the campus community is essential to achieve these goals. Diversity is broadly defined to include such characteristics as, but not limited to, race, ethnicity, gender, religion, age, disability, and sexual orientation. Diversity also entails different viewpoints, philosophies, and perspectives. Attention to these aspects of diversity will help promote a culture of inclusion and belonging, and an environment where diverse opinions, backgrounds and practices have the opportunity to be voiced, heard and respected.

The reflection of Mason’s commitment to diversity and inclusion goes beyond policies and procedures to focus on behavior at the individual, group and organizational level. The implementation of this commitment to diversity and inclusion is found in all settings, including individual work units and groups, student organizations and groups, and classroom settings; it is also found with the delivery of services and activities, including, but not limited to, curriculum, teaching, events, advising, research, service, and community outreach.
Acknowledging that the attainment of diversity and inclusion are dynamic and continuous processes, and that the larger societal setting has an evolving socio-cultural understanding of diversity and inclusion, Mason seeks to continuously improve its environment. To this end, the University promotes continuous monitoring and self-assessment regarding diversity. The aim is to incorporate diversity and inclusion within the philosophies and actions of the individual, group and organization, and to make improvements as needed.