1. General Course Information
   Course: Software and Data Quality Management
   Course Number (section): MIS 491 (001) - 3 Credits
   Location: Planetary Hall 122, Fairfax Campus
   Time: Wednesday 7:20 pm - 10:00 pm – Jan 20, 2015 - May 13, 2015
   Course Homepage: Blackboard
   Prerequisites: None

2. Instructor Information
   Professor: Greg Hampe, Assistant Professor, ISOM
   Office: Enterprise Hall 154,
   Tel. 703-993-1874
   Email: ghampe@gmu.edu
   Office Hours: 1:30 to 2:30 Tuesday and Thursday (also by appointment)

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
     o Understand the role quality and quality controls within the Software Life Cycle.
     o Learn about various development methodologies incorporating quality.
     o Learn the basics concepts of managing the quality function within a project.
     o Understand the drivers of managing Data Quality.
     o 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
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](https://cb.hbsp.harvard.edu/cbmp/access/24718404)

### Cases for Purchase at HBSP

<table>
<thead>
<tr>
<th>Case #</th>
<th>Authors</th>
<th>Publication Date</th>
<th>Case #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CMM versus Agile: Methodology Wars in Software Development</td>
<td>Robert D. Austin</td>
<td>9/10/2008</td>
</tr>
<tr>
<td>2.</td>
<td>Jharna Software: The Move to Agile</td>
<td>Indranil Bose; Ming-Hui Huang; Minyi Huang</td>
<td>12/11/2006</td>
</tr>
</tbody>
</table>

### Reading for Purchase at HBSP

<table>
<thead>
<tr>
<th>Reading for Purchase at HBSP</th>
<th>Author</th>
<th>Publication Date</th>
<th>Item #</th>
</tr>
</thead>
<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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</tbody>
</table>

### 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

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/21/15</td>
<td>Syllabus, Exploring Quality</td>
<td><em>(Horch)</em> Chapter 1</td>
</tr>
<tr>
<td>01/28/15</td>
<td>LifeCycle</td>
<td><em>(Horch)</em> Chapter 1 - Continued</td>
</tr>
<tr>
<td>02/04/15</td>
<td>LifeCycle</td>
<td><em>(Horch)</em> Chapter 2: Standards</td>
</tr>
<tr>
<td>02/11/15</td>
<td>What builds quality in</td>
<td><em>(Horch)</em> Chapter 3: Reviews</td>
</tr>
<tr>
<td>02/18/15</td>
<td>What verifies and validates</td>
<td><em>(Horch)</em> Chapter 4: Testing</td>
</tr>
<tr>
<td>02/25/15</td>
<td>How do we measure good enough</td>
<td><em>(Horch)</em> Chapter 5: Defects</td>
</tr>
<tr>
<td>03/04/15</td>
<td>Data Quality</td>
<td><em>(Redman)</em> Assessing and Improving Data Quality</td>
</tr>
<tr>
<td>03/11/15</td>
<td>Spring Break</td>
<td></td>
</tr>
<tr>
<td>03/18/15</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>
</tr>
<tr>
<td>03/25/15</td>
<td>Associated topics</td>
<td><em>(Horch)</em> Chapter 6: Configuration Management</td>
</tr>
<tr>
<td>04/01/15</td>
<td>Case Study 2 – Writeup</td>
<td>(HBSP) Jharna Software: The Move to Agile</td>
</tr>
</tbody>
</table>
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:**
Grading for the course will be based on total points earned by the end of the course. Final course letter grade assignments will approximate the table below.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>93% or above</td>
</tr>
<tr>
<td>A-</td>
<td>90% to &lt;93%</td>
</tr>
<tr>
<td>B+</td>
<td>88% to &lt;90%</td>
</tr>
<tr>
<td>B</td>
<td>82% to &lt;88%</td>
</tr>
<tr>
<td>B-</td>
<td>80% to &lt;82%</td>
</tr>
</tbody>
</table>

**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 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.

**Attendance Policy:**
Attendance in this class is highly recommended in order to be successful in learning the course content. The student is solely responsible for all assignments and material presented in class even if missed due to absence.

**8. Email Communication**
By policy of the University and to help protect confidentiality, students are must use their official George Mason email accounts for communication with the instructor and other students in the class. All emails from the instructor will be sent to your official George Mason email email addresses.

**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 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. School of Business Standards of Behavior:
The mission of the School of Business at George Mason University is to create and deliver high-quality educational programs and research. Students, faculty, staff, and alumni who participate in these educational programs contribute to the well-being of society. High-quality educational programs require an environment of trust and mutual respect, free expression and inquiry, and a commitment to truth, excellence, and lifelong learning. Students, program participants, faculty, staff, and alumni accept these principles when they join the School of Business community. In doing so, they agree to abide by the following standards of behavior:
   o Respect for the rights, differences, and dignity of others
   o Honesty and integrity in dealing with all members of the community
   o Accountability for personal behavior
Integrity is an essential ingredient of a successful learning community. Ethical standards of behavior help promote a safe and productive community environment, and ensure every member the opportunity to pursue excellence. School of Business can and should be a living model of these behavioral standards. To this end, community members have a personal responsibility to integrate these standards into every aspect of their experience at the School of Business. Through our personal commitment to these Community Standards of Behavior, we can create an environment in which all can achieve their full potential.

11. Honor Code Statement:
Honor System and Code: The Honor System and Code adopted by George Mason University will be enforced for this class:
http://oai.gmu.edu/the-mason-honor-code/
In your work on all written assignments, keep in mind that you may not present as your own the words, the work, or the opinions of someone else without proper acknowledgement. You also may not borrow the sequence of ideas, the arrangement of material, or the pattern of thought of someone else without proper acknowledgement. Please note: Faculty are obligated to submit any Honor Code violations or suspected violations to the Honor Committee without exception.
SYLLABUS

MIS 491
Software and Data Quality Management

The appropriate version of the School of Business “Recommendations for Honor Code Violations” should be attached.

12. Business Library Liaison Information:
   Jo Ann J. Henson, MLIS Business and Economics Liaison Librarian
   Fenwick Library Fairfax Campus: http://infoguides.gmu.edu/business

13. Disability: If you have a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 703-993-2474. All academic accommodations must be arranged through the ODS. Please take care of this during the first two weeks of the semester. More information about ODS is available at http://www.gmu.edu/student/drc

14. Religion: Students who will miss class for religious reasons should inform me of their anticipated absences as soon as possible.

15. Counseling center: George Mason University has a counseling center that can provide assistance if you find yourself overwhelmed by life, want training in academic or life skills, or the like. More information is available at http://www.gmu.edu/departments/csd/c

16. Writing Guidelines (if relevant for the course): Unless otherwise specified, all writing assignments should be formatted as follows: double-spaced, Times New Roman, 12-point font, and 1-inch margins. To cite and reference professional or academic sources, please use APA style. Specific instructions for in-text citations and referencing are found in the Publication Manual of the American Psychological Association, 6th Edition or at http://owl.english.purdue.edu/owl/resource/560/01/.

   To help manage the citations and seamlessly create reference lists, Mason supports a free software called Zotero. Please go to https://www.zotero.org/

   This program offers:
   - Centralized bibliography management
   - Ability to sync across computers
   - Ability for teams to combine contributions to the references
   - Word plug-in that allows citation management within MS word

George Mason University has a writing center that can help you improve your English writing skills. More information is available at http://writingcenter.gmu.edu/

17. Inclement weather & campus emergencies: Information regarding weather related changes in the University’s schedule (e.g., closing or late opening) will be provided on the GMU website and via MasonAlert. Students sign up for the Mason Alert system to provide emergency information of various sorts at https://alert.gmu.edu.

TEXT INFORMATION

HORCH
Artech House Publishers,
John W. Horch, January 2003,
ISBN: 9781580536042
Available USED at the bookstore