Course Syllabus
EDMM 3280– Quality Assurance & Control

Catalog Data:

Techniques of controlling quality in manufacturing systems. Topics include organization of quality, methods of measurement and basic statistical tools. NOT FOR ENGINEERING CREDIT. Prerequisites: STAT 2160 or MATH 2600 or IEE 2610.

Credits: 3 hours
Lab Hours: (3 to 0)

Textbook:

Mitra, A., Fundamentals of Quality Control and Improvement, John Wiley & Sons., Inc.,

Software (available in labs or on-line):

MINITAB, Microsoft Excel, Microsoft Word

Course Communications:

All official correspondence will take place through the WMU (your_name@wmich.edu) email utility and via the eLearning system.

Prerequisites by Topic:

1. Basic electronic communication skills; word processing, electronic spreadsheet, internet access, e-mail.
   Microsoft training videos can be found at: http://office.microsoft.com/en-us/support/support-FX103999017.aspx?redir=0
2. Working knowledge of descriptive statistics, mean, variance, standard deviation, graphical display methods, probability, confidence intervals (MATH 2160, 2600, 3660)
3. Working knowledge of inferential statistics; estimation, hypothesis testing, regression (MATH 2160, 2600 or 3660)

Course Objectives:	Performance Criteria:
B: Ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies.	B2: Applies appropriate statistical techniques. 80% of students score 70% or above on statistical part of final exam.
F: Ability to identify, analyze, and solve broadly defined engineering technology problems.	F4: Did you improve your ability to solve real problems in this field? 3.25 or higher on ICES #176

Schedule:

Week	Chapter	Topic
1	Chapter 1	Syllabus Review Introduction to Quality Control - Evolution of Quality
2	Chapter 2	Conceptual Framework
3	Chapter 4	Statistics and Probabilities
3		**Quiz 1**
4	Chapter 4	Sampling Distributions and Hypothesis Testing
5	Chapter 6	Process Control & Improvement
6	Chapter 7	Control Charts for Variable Data
7	Chapter 4-7	Importance of Rational Sampling
7		**Quiz 2**
8	Chapter 6-7	Interpretation of Control Charts
9	Chapter 8	Control Charts for Attribute Data
10	Chapter 9	Process Capability
11	Chapter 10	Acceptance Sampling
11		**Quiz 3**
12	Chapter 11	Intro to Reliability Thanksgiving – no face-to-face class
13	Handouts	Intro to Six Sigma
13		**Quiz 4**
14		Review
15	**Comprehensive**	**FINAL EXAM**

Assignments:

Homework assignments will be given on-line via D2L. Assignments must be submitted via the Assignment Drop Box on D2L unless otherwise instructed. Assignment due dates/times are viewable on D2L under the assignment link. Assignments must be submitted prior to the deadline, otherwise no credit will be given - no exceptions.

Quizzes/Exam:

1. Quizzes and exams are closed book, closed notes. No laptops will be allowed. Bring a calculator.
2. You are not permitted to borrow a calculator, textbook or any other materials during quizzes and exams.
3. During all quizzes and exams, you will be allowed one cheat-sheet, 2-sides. Statistical tables will be provided.

Grading (tentative):

Homework	20%
Quizzes (Best 3 of 4)	40%
Final Exam	40%

Grading policies:

1. Quizzes will be approximately 25 - 30 multiple choice questions. A final examination of approximately 50 multiple-choice questions will be given.
2. Homework assignments will be posted on e-learning on Thursday and due the following Thursday. Late assignments will not be accepted. For electronic assignments, technical difficulties will not be accepted as valid excuses for late submission, particularly within an hour or after the submission deadline. A grade of 0 will be given in the particular assignment.

Grading Scale:

A: 92.5-100; **BA**: 87.5-92.4; **B**: 81.5-87.4; **CB**: 76.5-81.4; **C**: 70-76.4; **DC**: 65-69.9; **D**: 55-64.9; **E**: Below 55

Class Polices:

1. **Attendance** will not be taken. Students are responsible for all the material covered in the lecture and face-to-face meetings.
2. Lecture slides are only intended to guide the lecture**. Lecture problems will be solved in class using the whiteboard and no solutions will be posted.** Similar problems and the corresponding formulas / solutions are found in the textbook. Students are required to read the textbook sections to complement the lecture and ask questions.
3. Each **student is responsible** for the syllabus, all material discussed, distributed or assigned in class, and all **communications posted on e-learning**.
4. **There are no make-up quizzes, homework or exams. One** of the quizzes will be dropped to accommodate students with special circumstances out of their control such as conferences, job interviews, subpoena, sickness, family emergency, religious observance, and others. In the case of the final exam, any individual major circumstance

that requires the instructor's reevaluation of this policy has to be fully documented and justified, e.g., a major illness or injury requires original medical documentation.

5. **No extra-credit** or bonus work will be given **to increase failing grades**.
6. **E-mail questions** will be answered within a 24-hour period during business hours (M-F 8AM - 5PM) on a first come first served basis. Homework/assignment related e-mail questions must be sent more than 48 hours before the due date.
7. The **use of cell phones** and/or audio devices, including those with earphones, is not allowed during class time.

Syllabus Revision:

The instructor reserves the right to revise any part of the lecture schedule including the number and frequency of face-to-face meetings, as he deems necessary, throughout the semester. Revisions, if they occur, will be announced via the WMU (your_name@wmich.edu) email utility.

Academic Honesty:

You are responsible for making yourself aware of and understanding the policies and procedures in the Undergraduate and Graduate Catalogs that pertain to Academic Honesty. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. [The policies can be found at http://catalog.wmich.edu under Academic Policies, Student Rights and Responsibilities.] If there is reason to believe you have been involved in academic dishonesty, you will be referred to the Office of Student Conduct. You will be given the opportunity to review the charge(s). If you believe you are not responsible, you will have the opportunity for a hearing. You should consult with your instructor if you are uncertain about an issue of academic honesty prior to the submission of an assignment or test.

In addition, you are encouraged to review the information at www.wmich.edu/conduct, www.wmich.edu/registrar and www.wmich.edu/disabilityservices to access the Code of Honor and general academic policies on such issues as diversity, religious observance, student disabilities, etc.