Bus 659P/659/459  
Process Analysis and Six Sigma  
Fall 2014, Day Section

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Textbooks

A new version of the primary “textbook” we use in the course just came out. I am going to try to “support” both versions (i.e., the 3rd edition and the 4th edition). Thus, the primary textbook is either:


or


There are two additional books for the course:


Course Packet: There is a small course packet which will be on Study.net later in the semester. I will announce when the packet is available.

Software: We will use Microsoft Excel extensively. We may also use JMP (a statistics package created by SAS). The University has a site license for the JMP software so it is free to you. Instructions on how to get JMP will be provided later if we do, in fact, use this software.
**Exams:** There will be an exam on Tuesday, November 4 during class. Note that I may need to slide this a week in order to accommodate a guest speaker. In that case, the exam will be Tuesday November 11. Exams are open book and open notes. The in-class exam will be entirely objective (multiple choice and T/F). I will most likely also give one or two take-home questions that will be due by class time one week later (Tuesday November 11 or Tuesday November 18, depending on when the in-class part of the exam occurs). More details concerning the exam and take-home questions will be given later in the semester.

**Assignments:** In general, assignments will be given out each week and will be due one or two weeks later as specified in the assignment.

**Note:** As a special assignment, read the books *The Goal* and *The Checklist Manifesto* by the date of the exam (Nov 4). *The Goal* book is a novel and I think you will find it easy and fun to read. *The Checklist Manifesto* is also easy reading and very interesting. I do not plan to formally devote time in class to discussing these books, although some discussion may be come up during our other discussion. I will feel free to ask questions about these books on the exam.

**Teams:** Each student will be assigned to a team. Many to most assignments will be team based.

**Honor Code:** As you know, the GBS has an honor code. All exams and assignments will be conducted in accordance with the honor code. Unless otherwise specified in the assignment, assignments will be assumed to be team based which means that you can discuss them freely with your team, but not with other teams. The exams are to be individual work.

**Class Participation:** Class attendance is a prerequisite for any class participation to occur and is therefore considered very important. Class participation consists of three components: (1) attendance, (2) in-class participation, (3) electronic participation (questions, discussion, posting articles, etc.).

Class attendance will be taken each class via sign-in sheet. It is an honor code violation to sign someone else in for the class. If you must be absent from class for some reason (which better be a good one), then I MUST be notified in advance. If your absence is due to an emergency that prevents you reasonably notifying me in advance, then you must notify me as soon as possible afterwards.

In summary, you MUST treat class as if it were an important business meeting.

**Catapult:** A catapult (which represents a production machine) will be used to reinforce a variety of concepts in the course. Each team will be given a catapult to use. The catapults are expensive, so please treat them with great care. They will be handed out to the teams later in the course.

**Project:** Instead of a final exam, there will be a team-based project which will involve use of the catapult and a catapult shooting competition. Details concerning the project and the
competition will be given out later in the semester. The competition will be held during the final exam period which is Tues December 9 at the regular evening section class time (6:30 to 9:15). In addition to the competition, the project also requires a written paper describing your team's approach. The paper will be due at the end of the exam week after the competition (specific date/time to be announced).

**Grades:** Grades will be based on the Exam (45%), the Catapult Project (25%), assignments (20%), and class participation (10%). Note: Attendance is required and repeated absences may be used to adjust your overall score.

**Course Web Site on Blackboard:** The course has a web site on Blackboard (classes.emory.edu). The website will be used for course materials, announcements, general discussion, and questions relating to the class. Check it frequently. Discussion in the Blackboard site will count as class participation.

**Office Hours:** By appointment. I will also try to be available before and after class to answer questions.

**SYLLABUS**

The following is a tentative syllabus. Details will provided on a week-by-week basis on the course Blackboard site:

**Week 0 (Thu 8/28):** Course Introduction, What is Six Sigma

**Week 1 (Tue 9/2, Thu 9/4):** Process Model; Types of variation.

**Week 2 (Tue 9/9, Thu 9/11):** Process Model; Statistical Process Control (SPC)

**Week 3 (Tue 9/16):** SPC, Process Capability. **No class on Thu 9/18.**

**Week 4 (Tue 9/23, Thu 9/25):** Measurement; Benchmarking; ANOVA

**Week 5 (Tue 9/30, Thu 10/2):** Problem Solving; DMAIC; ANOVA

**Week 6 (Tue 10/7, Thu 10/9):** Problem Solving; DMAIC; DOE

**Week 7 (Tue 10/14: No Class. Fall Break). Thu 10/16: **Toyota Production System

**Week 8 (Tue 10/21, Thu 10/23):** Toyota production system; Possible Guest Speaker on Tuesday night.

**Week 9 (Tue 10/28, Thu 10/30):** Toyota Production System, DOE – Fractional Factorials; Guest Speaker on Tuesday.

**Week 10 (Tue 11/4, Thu 11/6): **EXAM during class on Tues 11/4. Note: Exam date may be moved a week later to accommodate a guest speaker. **Thu 11/6:** Fractional Factorials.
**Week 11 (Tue 11/11, Thu 11/13):** Human resource issues; Fractional Factorials; Possible Guest Speaker.

**Week 12 (Tue 11/18, Thu 11/20):** Screening Experiments. Measurement System Evaluation. Possible guest speaker on Tuesday.

**THANKSGIVING:** (Tue 11/25) No class on the Tuesday before Thanksgiving.

**Week 13 (Tue 12/2):** Measurement System Evaluation, Course wrap-up.

**Catapult Competition (Tue 12/9):** The competition will be at the regular evening class time (6:30pm to 9:15pm).