## OPERATIONS MANAGEMENT

## COURSE OUTLINE

## MGT 364 Sections 1, 2 and 3 - Glass 438

OBJECTIVES: The objectives of this course include:

- Develop a basic understanding of the operations function within an organization.
- Understand the purpose and basic functions of quantitative and analytical methods of improving productivity and quality.
- Develop a basic grasp of how to design an organization at the operational level so that it's more productive.
- Understand the process of running an organization at the operational level.
- Understand use of Performance Feedback Data via active Web page.

TEXT: Operations Management, Eighth Edition, by Heizer and Render, Prentice Hall, 2005.
INSTRUCTOR: Dr. Keith Denton OFFICE: Glass 419 PHONE: 836-5573 E-MAIL:
DKDenton@missouristate.edu
OFFICE HOURS: Tuesday and Thursday: $12: 30 \mathrm{pm}$ to $1: 45 \mathrm{pm}$ Wednesday: $1: 00 \mathrm{pm}$ to $3: 00 \mathrm{pm}$
(All other times by appointment only!!!)
COURSE OUTLINE: The course will require that you read the assigned chapters, answer discussion questions in class, take objective tests and be able to work mathematical and quantitative problems that are assigned, and participate in one simulation (the Production Game).

## CHAPTER SEQUENCE AND ACTIVITIES

| Chapter <br> Sequence | Approximate Number of Questions | Problems |
| :---: | :---: | :---: |
| Chapter 1 | 6-7 |  |
| Chapter 2 | 8-9 |  |
| Chapter 3 | 4-5 |  |
| Chapter 4 | 6-8 | 1, 5, 6b, 7, 9 |
| Chapter 5 | 4-5 |  |
| Chapter 6 | 16-17 |  |
| TEST I |  |  |
| Chapter 6 Supplemental | 19-20 | $\begin{aligned} & 6.1,6.2,6.3,6.4,6.6,6.13,6.15,6.17,6.21 \text {, } \\ & 6.22,6.23 \end{aligned}$ |
| Chapter 7 | 5-6 |  |
| Chapter 7 Supplemental | 2-3 on Break-even and Strategic Driven Investments | $7-12,13,16,18,19$ |
| Chapter 8 | 3-6 |  |
| Chapter 9 | 13-14 |  |
| TEST II |  |  |
| Chapter 10 | 7-8 |  |
| Chapter 10 Supplemental | 3-4 |  |
| Chapter 11 | 4-7 |  |
| Chapter 12 | 9-11 | $2,8,9,12,19,22,23$ |
| Chapter 16 | 9-10 |  |
| Chapter 14 | 4-5 | 4, 6 |
| Chapter 15 | 4 | 10, 12 |
| TEST III |  |  |

POLICY ON USE OF CELL PHONES IN CLASSES: As a member of the learning community, each student has a responsibility to other students who are members of the community. When cell phones or pagers ring and students respond in class or leave class to respond, it disrupts the class. Therefore, the Office of Academic Affairs prohibits the use by students of cell phones, pagers, or similar communication devices during scheduled classes. All such devices must be turned off or put in a silent mode and cannot be taken out during class. At the discretion of the instructor, exception to this policy is possible in special circumstances.

Sanctions for violation of this policy are determined by the instructor and may include dismissal from the class - see Class Disruption (http://www.missouristate.edu/recreg/classdis.html). In testing situations, use of cell phones or similar communication devices may lead also to a charge of academic dishonesty and additional sanctions under the Student Academic Integrity Policies and Procedures (http://www.missouristate.edu/provost/AcademicIntegrity.html).

There are two appeal processes available to students. A sanction for class disruption may be appealed using the appeal process stated in the Class Disruption policy; however, a violation that involves a charge of academic dishonesty must be appealed using the process described in the Student Academic Integrity Policies and Procedures. Students have the right to continue attending class while an appeal is in progress.

ATTENDANCE POLICY: You are expected to show up on time (not 5 minutes late). Those who attend classes regularly get better grades. I will take attendance at the start of the class. Being late or absent counts the same. Every time you accumulate either 3 lates or unexcused absences, your score (overall points collected in class through scores on your tests, production run points or points given by CEO) is deducted 3 points (e.g., 6 lates or absences would be 6 points, etc.). For instance, if you had accumulated 320 points and had a combination of 6 lates or absences, you would have a score of 314 , which would be a " C " for your final grade rather than a "B".

## GRADING:

$$
\begin{aligned}
& 400-360=\mathrm{A} \\
& 359-320=\mathrm{B} \\
& 319-280=\mathrm{C} \\
& 279-240=\mathrm{D}
\end{aligned}
$$

Below 240 points or $60 \%$ results in an F
GRADING OF TESTS: From a practical standpoint, I cannot be concerned with every possible misinterpretation of a test question. I will evaluate statistical reliability, but will not give credit for a missed question when someone states "That is what I thought you meant.....!"

If you want to argue a point, you must set up a time and come to my office. This must take place no more than 2 days after the exam.

GRADING POLICY: All tests must be taken during designated time. Those who have legitimate excuses (i.e., medical problems) will take a make-up comprehensive exam in place of the missed test. Those who cannot produce documentation of legitimate excuses will receive a zero for that exam.

DISABILITY ACCOMODATION: To request academic accommodations for a disability, contact the Director of Disability Services, Plaster Student Union, Suite 405, (417) 836-4192 or (417) 836-6792 (TTY), http://www.missouristate.edu/disability. Students are required to provide documentation of disability to Disability Services prior to receiving accommodations. Disability Services refers some types of accommodation requests to the Learning Diagnostic Clinic, which also provides diagnostic testing for learning and psychological disabilities. For information about testing, contact the Director of the Learning Diagnostic Clinic, (417) 836-4787, http://psychology.missouristate.edu/ldc.

NONDISCRIMINATION: Missouri State University is an equal opportunity/affirmative action institution, and maintains a grievance procedure available to any person who believes he or she has been discriminated against. At all times, it is your right to address inquiries or concerns about possible discrimination to the Office for Equity and Diversity, Siceluff Hall 296 , (417) 836-4252. Other types of concerns (i.e., concerns of an academic nature) should be discussed directly with your instructor and can also be brought to the attention of your instructor's Department Head.

ACADEMIC DISHONESTY: Missouri State University is a community of scholars committed to developing educated persons who accept the responsibility to practice personal and academic integrity. You are responsible for knowing and following the university's student honor code, Student Academic Integrity Policies and Procedures, available at http://www.missouristate.edu/provost/22102.htm and also available at the Reserves Desk in Meyer Library. Any student participating in any form of academic dishonesty will be subject to sanctions as described in this policy.

The final drop date for the 2007 Spring Semester is May 4. The grade of $\mathbf{N}$ (withdraw passing) may not be awarded after this date.

NOTE: You can use a calculator in class, but may not use a programmable calculator for the test!
YOU ARE EXPECTED TO DO YOUR OWN WORK ON ALL ASSIGNMENTS, QUIZZES, PAPERS, TESTS, AND FOR THE SIMULATION. ANY BREECH OF THIS CODE OF ETHICS WILL RESULT IN A FAILING GRADE IN THIS COURSE AND THE FULL ENFORCEMENT OF OTHER PENALTIES AS SANCTIONED BY THE UNIVERSITY POLICY ON ACADEMIC DISHONESTY.

I HAVE HAD SOME THEFT OF EXAMS. IF SOMEONE STEALS OR SELLS AN EXAM, THEY WILL BE EXPELLED FROM THE UNIVERSITY.

## INSTRUCTIONS FOR

## THE PRODUCTION GAME - BASIC OPTION

1. One class period is devoted to developing a management organization, review of equipment and study rules of game and product to be produced.
2. Production day. The same product specifications for a product are given to each group of 10 to 15 student management teams. Students have 30 minutes to finish as many quality products as they can and pass inspection. Shipments are in batches of four items.
3. Each shipment will be delivered to the customer who inspects the shipment to make sure the product meets specifications. These specifications include making sure all measurements are within plus or minus $1 / 32^{\prime \prime}$, correct color, properly assembled and so forth. If any one item in a lot fails inspection, the item is rejected (marked in red) and the entire lot is returned to the manufacturing company. The rejected items that cannot be "fixed" and resubmitted or re-inspected within the original 30 minutes must be kept by the company and counted as scrap at the end of the production run.

## GRADING AND SCORING

1. Your "company" will produce a maximum of four times during the term of the course. If, at any time, your group is able to produce 11 lots, zero inventory, zero scrap and make $\$ 8,000$ on a run, you can receive an "A" for the remaining runs but not be eligible for "bonus" credit. All team members receive the same points for your placement among the teams. For example, if your team finished fourth among nine teams, everyone receives fourth place points. Generally, points will be given to each member who is present during the production run and practice runs. The exact amount of the points will be based on where the company finishes. A company finishing first will receive more points than one which finishes second and so forth. Each successive production run is worth more points. An exact breakdown of points per run will be provided later (Form \#10).
2. Each student will also receive points based on their CEO's evaluation of their individual efforts during the course. The instructions for the production game describe the relationship between the CEO, other management members and their employees. The subjectivity or criteria by which the CEO evaluates the contribution of others on the team and vice versa can be established between the CEO student managers and student workers. It is, however, ultimately the CEO's responsibility (usually with advice from HR ) to assign point grades. The only person I grade is the CEO; the CEO grades everyone else. The maximum number of points that can be acquired here is seen in the grading attachment. Think carefully about this area since it is important to reward those that contribute the most and not reward the ones that do not contribute.

There is additional information on how to be successful in the various positions by going to the Web site www.mgt.missouristate.edu/Faculty/Denton/denton.htm. You can check out the "resources" to see suggested forms and responsibilities of the various positions. All this is useful but not required. Everyone, however, must read and know the "Introduction" material. It will be on future tests. Some point totals have changed.
3. Students, as in any class, are judged on their initiative and participation. These points are subjective and determined by the teacher. These points are given at the end of the course. These points could affect one if, for example, a student were a few points away for a higher grade. Note that normally, if a student is one point away from a higher grade and has no "bonus points" effort, they will not receive the higher grade. The only time a student is given the "benefit of the doubt" is when a student has gone above and beyond the call of duty, so to speak. Activities included here would be:
(1) frequent classroom participation and discussion
(2) taking on additional responsibilities
(3) exceptional efforts and determination in improving grades and performance.

## PRODUCTION RUN SCORING BREAKDOWN

1st Production Run: Points are based strictly on how much good product a company produces and somewhat on inventory control and which group or companies finished first to last. The inventory of your company includes raw materials, work-in-process (WIP) and unsold finished materials.

2nd Production Run: Points are based on the amount of production, square inches of raw material, WIP and finished goods. Inventory is not the only material cost; therefore, points will also be given for the least amount of square inches of scrap, rework, or other defective product. Those companies with the highest profits and lowest environment cost also accumulate the most points.

3rd Production Run: The last production run judges each student work group based on the four criteria previously discussed. This includes absolute production based on number of units produced, square inches of inventory, square inches of defective or reworked product, environment cost and profits.

## SUMMARY OF PRODUCTION GAME POINTS

Maximum points to produce good products

| 1st Production Run | 10 pts. |
| :--- | :--- |
| 2nd Production Run | 21 pts. |
| 3rd Production Run | 39 pts. |

CEO's evaluation of student's work effort in their group
Total possible points

30 pts. to $35^{*}$ pts. 100 pts.

* (5 bonus pts. - Only available to mgrs. These people, regardless of title, must be paid for filling out income statements. If, at the end of the last run, your company has not made a profit, you cannot give bonus points to anyone.)
*Employees can receive a score of 0-30 depending on CEO's evaluation. Managers receive a 15-35 score depending on the CEO's evaluation and the CEO (I grade this person) receives a 30 to 40 score depending on teacher's and team members' evaluation.


## SUMMARY OF PRODUCTION RUN POINTS

## Breakdown of points for Production Runs:

1st Production Run - 10 pts. MAX. ( 7 pts . for production, 3 pts . for quality control)
2nd Production Run - 21 pts. MAX. ( 8 pts . for production, 6 pts . for inventory control, 4 pts. for quality control, 3 pts. for profits)
3rd Production Run - 39 pts. MAX. ( 10 pts. for profits, 8 pts. for production, 7 pts. for inventory control, 6 pts. for quality control, 5 pts. for environment, 3 pts. for the financial audit)
**There are also bonus points available, depending on what the team performs on the last production run. If you make a $\$ 1.00$ profit, you get bonus points. Then at about the $\$ 5,000$ and $\$ 11,000$ level, other bonus points are available.

## SUMMARY OF TOTAL POINTS

$$
\begin{array}{ll}
\text { Test } 1 & 100 \text { pts. } \\
\text { Test } 2 & 100 \text { pts. } \\
\text { Test } 3 & 100 \text { pts. } \\
\text { Production Game } & 100 \text { pts. } \text { (plus bonus points, if applicable) } \\
& 400 \text { pts. }
\end{array}
$$

Bonus points can occur from individual effort like managerial responsibilities. You can also earn extra bonus points for accurate and early income statement off the simulation. Every 4 points of bonus you receive equate to roughly $1 \%$ of your grade, so if you had a $79 \%$ average (a " C ") for the class and had 4 points, then you would get an $80 \%$ or a "B".

| Tentative Class Schedule <br> MGT 364 |  |  |  |
| :---: | :---: | :---: | :---: |
| Tuesday | Thursday |  |  |
| Jan. 16 | Introduction and Production Game Video | Jan. 18 | Chapter 1 <br> Overview of Operations Hard Rock (9 min.) |
| Jan. 23 | Chapters 1 \& 2 <br> Southwest Airlines Video (30 min.) | Jan. 25 | ***Organize Company*** |
| Jan. 30 | CHAPTERS 2 \& 3 | Feb. 1 | Chapter 4 |
| Feb. 6 | Chapter 4 \& Problem | Feb. 8 | Chapters 5 \& 6 <br> Whirlybird Exercise |
| Feb. 13 | Chapter 6 | Feb. 15 | Chapter 6 |
| Feb. 20 | SUPPLEMENTAL Chapter 6 | Feb. 22 | $1{ }^{\text {st }}$ Production Run |
| Feb. 27 | TEST I - Chapters 1-6 | Mar. 1 | SUPPLEMENTAL Chapter 6 |
| Mar. 6 | Chapter 7 \& Supplemental 7 <br> Process Strategy | Mar. 8 | Supplemental 7 \& Chapter 8 |
| Mar. 13 | Chapters 8 \& 9 | Mar. 15 | Chapter 9/Intro Chapter 10 |
| Mar. 20 | SPRING BREAK-NO CLASSES | Mar. 22 | SPRING BREAK-NO CLASSES |
| Mar. 27 | Practice Production Run or Chapter 10 Exercises | Mar. 29 | Chapter 9/Intro Chapter 10 <br> "Apples and Oranges" Exercise |
| Apr. 3 | TEST II -Chapters 6S, 7, 7S, 8, \& 9 | Apr. 5 | SPRING HOLIDAY-NO CLASSES |
| Apr 10 | $2^{\text {nd }}$ Production Run | Apr. 12 | CHAPTER 10 \& SUPPLEMENTAL 10 |
| Apr. 17 | CHAPTER 11/CHAPTER 12 Inventory Control | Apr. 19 | "EGGSactly the Right Gift" Exercise |
| Apr. 24 | Chapter 12 | Apr. 26 | Chapter 16 |
| May 1 | Chapter 14 | May 3 | $3{ }^{\text {rd }}$ Production Run |
| May 8 | Chapters 14 AND 15 | May 10 | CHAPTER 15 |

## FINAL EXAM (TEST III) SCHEDULE

| Sec. 1 | 9:30 a.m. Class |  | Thursday, May 17, 2007 | 8:45 a.m. to | 10:45 a.m. |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Sec. 2 | 11:00 a.m. Class | Thursday, May 17, 2007 | 11:00 a.m. to | 1:00 p.m. |  |
| Sec. 3 | 2:00 p.m. Class |  | Tuesday, May 15, 2007 | 1:15 p.m. to | 3:15 p.m. |

