

Department of Technology
Fall 2006

INT802
PRODUCTIVITY ASSESSMENT AND ANALYSIS

Instructor:

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Office:

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Class schedule:

Section: 001, CRN: 15010; Assisted Online

Office Hours:

MTWR: 10 - 11 am, 4:30 - 6 pm. If my office door is open at other times I will most likely be available for discussion. Come right in. Email for appointments as needed.

Credit hours:

3

Prerequisite:

Instructor approval

COURSE DESCRIPTION:

A study of industrial productivity, its assessment, measurement, analysis, and improvements with emphasis on human productivity and machine, material, and process productivity.

TEXT/RESOURCE BOOKS:

A. Required:

1. Kaydos, W. (1999). *Operational performance measurement: Increasing total productivity*. Boca Raton, FL: St. Lucie Press (A CRC Press Company).
– ISBN 1-57444-099-3

B. Recommended:

1. Morgan, M. W. (2005). *The path to profitable measures: 10 steps to feedback that fuels performance*. Milwaukee, WI: ASQ Quality Press.
– ISBN: 0-87389-649-1
2. Goldratt, E. M. (2003). *Production the TOC way workbook*. Great Barrington, MA: North River Press
Note: There is software (CD) accompanying the text
– ISBN: 0-88427-175-7
3. Dettmer, H. W. (1997). *Goldratt's theory of constraints: A systems approach to continuous Improvement*. Milwaukee, WI: ASQ Quality Press.
– ISBN: 0-87389-370-0
4. Kaplan, R. S., & Norton, D. P. (1996). *The balanced scorecard: Translating strategy into action*. Boston, MA: Harvard Business School Press.
– ISBN: 0-87584-651-3
5. Damelio, R. (1995). *The basics of benchmarking*. New York: Quality Resources.
– ISBN: 0-527-76301-2
6. Spencer, L. M. Jr. (1995). *Reengineering human resources*. New York: John Wiley & Sons, Inc.
– ISBN: 0-471-01535-0
7. Aft, L. S. (1992). *Productivity measurement & improvement*. Upper Saddle River, NJ: Prentice Hall.
– ISBN: 0-13-728759-3
8. Goldratt, E. M., & Cox, J. (1992). *The goal: A process of ongoing improvement* (2nd ed). Great Barrington, MA: North River Press.
– ISBN: 0-88427-061-0
9. Free online books at ECU libraries related to several topics in technology:
<http://www.netlibrary.com/>

C. Other Resources:

Check the INT 802 course listing in Blackboard for additional information concerning course topics. We will be adding web sites, suggested references, etc. as the course progresses.

COURSE OBJECTIVES:

Upon successfully completing this course, the student will be able to:

1. Explain the relationship between organizational productivity and the ability of that organization to compete in the global marketplace
2. Identify a variety of benefits that accrue to managers and employees when performance is measured

COURSE OBJECTIVES (Continued)

3. Compare and contrast a variety of organizational improvement initiatives, including Balanced Scorecards, Baldrige National Quality Program, Total Productivity Management, Total Quality Management and Control, Lean Manufacturing and reengineering, and Theory of Constraints, in terms of their impact on the productivity of an organization
4. Explain and utilize the following techniques for productivity analysis and improvement:
 - a. Flowcharts
 - b. Cause-and-Effect Diagrams
 - c. Surveys and Interviews
 - d. Balanced Scorecards
 - e. Total Productivity Management
 - f. Theory of Constraints
5. Identify the operational requirements for effective performance measurement systems
6. Explain how activity based costing differs from traditional costing methods

Rationale and Purpose

Productivity—taking into account both level and rate of growth—is a key measure of the strength of our workforce, our economy, and our ability to compete in the global marketplace. The ability of an organization to measure performance, particularly in terms of productivity, is a necessary condition for improvement. There is a wide variety of organizational improvement strategies and initiatives in existence (Balanced Scorecards, Total Quality Improvement, Lean Manufacturing, Theory of Constraints, Reengineering, etc.), and the ability to sort through the various options and make an informed decision regarding the optimum approach for a particular organization in a particular situation is a critical competency for today's manager.

The purpose of this course is fourfold:

1. To explore the relationship between organizational productivity and competitiveness.
2. To introduce the student to the various schools of thought related to setup, enhancement, and monitoring of operational performance and productivity initiatives.
3. To develop analytical skills comparing and contrasting the aforementioned schools of thought.
4. To encourage informed decision-making on the part of the student.

COURSE OUTLINE:

The course may, at various times, encompass reading assignments, written assignments, outside speakers, audio-visual presentations, industrial visitations, individual participation, role-playing, small group and class discussion, and objective tests.

COURSE OUTLINE (Continued)

Assignments should be prepared in a careful manner. All written work must be completed using a word processor. In all cases where direct quotations, major ideas, or facts are used, the student is to give the proper reference citations according to APA (5th edition) format. In such cases, a proper reference or bibliography must be included. A useful web site regarding formatting documents using the APA guidelines is <http://nutsandbolts.washcoll.edu/apa.html>.

NOTE: Material covered in reading assignments from the text may be on exams, even if not covered during class periods. Students are expected to complete readings before the topic is covered in class, so that all students are able to provide thoughtful, high-quality contributions to class discussions.

On-line assignments will be posted in Blackboard. Students are expected to check their INT 802 Blackboard accounts several times a week (at a minimum) to ensure that they are aware of any new postings, especially under the discussion board posted by other students. On-line assignments are to be done individually, without assistance from other students, and without reviewing or otherwise using material from previous semesters, unless otherwise directed by the instructor. These exercises are intended to help prepare the student for exams, and to help the instructor evaluate which concepts need additional explanation.

COURSE REQUIREMENTS:

Students should satisfactorily complete all requirements as assigned by the instructor, including, but not necessarily limited to the following:

1. Reading assignments, i.e. online and other assigned supplemental readings.
2. Find a successful solution of a student-selected real problem that calls for unique and creative ideas, using a creative problem-solving process.
3. Contribute to class discussion.
4. Complete the weekly written assignments.
5. Participation in reviews and critiques of peer assignments.
6. A final examination based on class discussions and reading assignments.
7. Development of creative solutions to given creative problems and projects.
8. A portfolio of class notes, assignments, and progress for organizing class materials.

Institutional Expectations:

Graduate level courses, such as INT 802, are expected to require a minimum of four hours of outside preparation for every hour of lecture (2004-2006 ECU Graduate Catalog, p. 32)

Attendance Policy:

Unless otherwise noted, the Department of Technology Class Attendance Policy will apply. Students are expected to attend all classes. Students should be aware that, due to the nature of some activities, there might not be an opportunity to make up even excused absences.

Academic Honesty:

Academic honesty is fundamental to the activities and principles of any university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with consequences that range from probation to expulsion. Academic dishonesty is not only a basis for disciplinary action but is also relevant to the evaluation of the student's level of performance. Academic honesty requires that students do not cheat, or knowingly assist another to do so. Other unacceptable behavior includes plagiarism, which is the submitting of someone else's work as your own, and the unauthorized access to or changing of grades or examinations. Students should also be aware that submitting or performing essentially the same piece of work for credit in different classes is considered dishonest unless all faculty members involved have agreed in advance to allow it. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructor.

EVALUATION:

Each student will be evaluated as follows:

- Class participation (5%) – participation in online weekly chats
- Weekly papers (25%) – 8 papers, maximum length 1 page
- Discussion Board critiques of papers (10%) – thoughtful responses to 2-3 posts by other students per week
- Assessments (40%) – 1 mid-term and 1 final assessment
- Project report and presentation (20%) – on measurement and productivity in the workplace

You may rework and resubmit your assessments (excluding the final), assignments, weekly papers for limited partial credit.

Each student must be punctual in getting in his or her assigned work. Spelling, grammar, and punctuation are integral components of written work; these elements will play a role with respect to the grade assigned to your work.

Assignments will be evaluated according to their completeness, neatness, organization, legibility, and use of proper forms and format. All mathematical calculations will be shown when and if applicable.

Make-up arrangement for assignments and tests must be made with the instructor prior to missing a class. If arrangements are not made it will be assumed the student did not intend to make up the assignment or test and a score of zero will be recorded. Test must be made up within one week of the day of the original date given.

The last day to turn in any work for grading, other than the final exam and project report, will be by 4:30 pm on Friday, December 8, 2006.

Class participation:

Attendance in the weekly online chat sessions is required. Your active participation in the chats will help make the class engaging and enjoyable.

Weekly Papers:

8 single-page papers related to the topic being discussed in class are to be submitted over the semester. Students are invited to discuss their papers during the on-line chat session class.

Discussion board critiques:

The weekly papers in Blackboard related to the readings and online sources are to be completed before the listed class period. Each student should respond thoughtfully to at least two other posts. The responses should be aimed at prompting further discussion, providing alternate viewpoints, as well as possible avenues for implementing the concepts being discussed.

Assessment (mid-term and final):

These will consist of subjective and analysis type questions. Students will have approximately a week to complete the mid-term and final assessments. The completed assessments are to be electronically uploaded via the Blackboard website.

Design project/Research paper and presentation:

There are four alternatives for the final project:

1. An individual research paper
2. An individual analysis of your employer's performance measurement systems
3. A team-based analysis of an employer's performance measurement systems
4. A team-based business plan with primary emphasis on the performance measurement systems for a new company.

Individual projects are to be approximately 20-pages in length, while the team-based projects are expected to be approximately 30-pages in length, including cover sheet, reference section, and appendices. Please be mindful that quality is emphasized over quantity in all submitted work. Students are encouraged to discuss the project with the instructor as it progresses.

The typed reports, from each individual or group, are due Wednesday, December 13th, at the conclusion of the presentation.

Final report:

Students are to use a word processor to type the report. In addition to in-class submission, they are to be electronically uploaded via the Blackboard website. Include the name of the project, the individual (alternatively, the group number and all group members) and the date on a cover sheet.

If you chose to complete the performance measurement paper option (individual or team-based), the report guidelines are:

1. Write an introduction providing relevant background information on the organization, including (if available) mission and vision statements.
2. Complete a background check (review of publicly available data, case studies, etc.) on the organization. Document the review and findings.
3. Based on the findings and, potentially, interviews within your own circle of colleagues map out the relationships of the mission and vision to the operational aspects of the organization (that is, financial, customer, internal business processes, and learning and growth aspects). To the extent possible, document examples at multiple levels throughout the organization.
4. Critically assess the metrics and methods currently in place in the organization. Make and justify any recommendations for improvements or replacements of existing metrics or methods.
5. Discuss your findings in terms of INT 802 course content. Does the content coverage make sense with respect to the organization being examined?
6. Length of paper is approximately 20 (individual) or 30 (group) pages excluding cover and reference page. Use one-inch margins on top and bottom, a 1¼-inch margin on the left, and a ¾-inch margin on the right. Use a 12-point font, and 1½ line spacing.
7. Minimum of 6 references (including specific links on websites).

If you chose to complete an individual research paper, the report guidelines are:

1. Select a topic area that is broad based to industry and has a direct influence on performance and productivity. Please let the instructor know your topic area as soon as possible so that topics are not duplicated
2. Complete a background check (review of literature, case studies, etc.)
3. Write an introduction explaining why the topic was selected and how it relates to and can be applied in your work environment
4. Write the review of literature and findings on related applications and progress of such applications and how others measure the performance of such a technology and/or improvement.
5. Based on the findings and, potentially, interviews within your own circle of colleagues (your plant) has the technology been considered and pursued.
6. What are the strengths, weaknesses and opportunities of the concept.
7. Estimate the benefits associated with the new concept proper. What measurements would you put into place if you had to justify the capital expenditure to upper management?
8. Length of paper is approximately 20 pages excluding cover and reference page. Use one-inch margins on top and bottom, 1¼-inch margin on the left and 1¾-inch margin on the right. Use 12-point font, and 1½ line spacing.
9. Minimum of 6 references (including specific links on websites).
10. Condense the paper into a 25 –30 minute presentation about your findings

Final presentation:

Condense the paper into a 25-30 (individual) or 35-40 (group) minute presentation about your findings. In the case of a group presentation, all group members must participate.

Grades:

100-90%	=	A	69-60%	=	D
89-80%	=	B	Below 60%	=	F
79-70%	=	C			

Mid-term grades will be made available to students by Friday, October 6, 2006.

STATEMENT OF DISABILITY:**ADA**

If you are registered with the Office of Services for Individuals with Disabilities, please make an appointment with the course instructor to discuss any academic accommodations you need. If you need academic accommodations and are not registered with the Office of Services for Individuals with Disabilities, please contact the office on the third floor of the Student Services Building, by email at disabilities@eku.edu or by telephone at (859) 622-2933 V/TDD. Upon individual request, this syllabus can be made available in alternative forms.

☺ A reminder that the work you do in the class, and the grade you earn, should reflect your personal abilities and accomplishments. I encourage you to discuss your assignments and projects with other students. However, the work you submit in this must be your own.

☺ Any suggestions leading to improvements in the content or presentation of the course are most welcome.