

Course Title: ITAP 3381: Business Process Redesign

Semester Credit Hours: 3 (3,0)

I. Course Overview

The objective of this course is to give students an understanding of key issues involved in business process redesign in organizations. The course is designed so as to cover topics that are relevant from a business process redesign perspective. Some of those topics are more conceptual, such as business process modeling methods, while others are more applied, such as IT-based business process change implementation approaches. The course includes a mix of lectures and discussions on contemporary articles from industry publications.

II. PMU Competencies and Learning Outcomes

This course helps students develop the ability to become conversant with business process redesign topics and understand the related terms and issues that are important for business process redesign practitioners around the world. Additionally, the course provides the students with the communication, leadership and teamwork skills necessary to effectively work as professionals in teams, or in charge of teams, responsible for business process redesign projects. Finally, the course looks at business process redesign from both an incremental and radical perspective. The former, incremental perspective is aligned with total quality management and related quality certification problems ISO 9000 and Software Engineering Institute's Capability Maturity Model. The latter, radical perspective is aligned with business process re-engineering approaches, and involves the use of significant changes in business processes (implemented within a short timeframe) as a key competitiveness-enhancing tool for organizations, both large and small.

III. Detailed Course Description

The course begins with a discussion of ethical issues, legal issues, and aspects conducive to effective teamwork, in the context of business process redesign projects. It then proceeds with a historical review of business process redesign. This covers several fundamental management movements that shaped modern business process redesign practices, from the emergence of Taylor's scientific management movement in the 1800s to that of the business process re-engineering movement in the 1990s. Next the course covers key concepts and methods. These include topics such as business process modeling, communication flow-oriented business process redesign, and business process outsourcing. The course concludes with a discussion of advanced issues in connection with business process redesign, such as Web-based IT-driven business process redesign and the use of data mining as a basis for business process change decisions. The emphasis in this course is more on conceptual and management-relevant business process redesign issues (including high-level IT implementation issues) than on database design or programming issues, whose coverage here is minimal.

IV. Requirements Fulfilled

This course is required for all students majoring in Information Technology in the College of Information Technology.

V. Required Prerequisites

- GEIT 1411: Computer Science I
- GEIT 1412: Computer Science II
- GEIT 1311: Computer Organization I
- GEIT 3341: Database Design.

VI. Learning Outcomes

In this course, students learn:

- To become conversant with business process redesign topics and understand the related terms and issues relevant to business process redesign professionals around the world.
- To acquire the communication, leadership and teamwork skills necessary for effectively work as professionals in teams, or in charge of teams, responsible for business process redesign projects.
- To understand the role of business process redesign as a key competitiveness-enhancing tool for organizations, both large and small.

VII. Assessment Strategy

Students are assessed based on: their performance on two exams (midterm and final); their class participation, which includes the discussion of recent articles taken from online industry publications; and the quality of a final team project and related oral presentation. The relative weights of each of these items on the final grade are as follows:

- The midterm and final exams each account for 25% of the grade. Combined, they account for 50% of the grade.
- Class participation accounts for 10% of the grade, and is evaluated based on the ability of students to add to the material already provided by the instructor to them.
- The final team project accounts for 40% of the grade. It is evaluated based on a project document, oral presentation, and client perceptions of the team project. The project must be conducted in collaboration with a client organization (for example, a department at a large company or non-profit organization). A letter from the main contact person at the client organization, discussing and evaluating the project and its outcomes, must be provided to the instructor. The letter should contain the contact information of the person writing so the instructor can call him/her up and inquire about the project.

The exams encourage the students to review all of the concepts and methods discussed in class, which are primarily based on textbook material. This is complemented by the class discussions on recent articles taken from online industry publications, which allow the students to become conversant with the industry-specific lingo related to business process redesign issues. The final project provides an experience where concepts, methods, and industry-relevant issues are all brought together in a very applied manner to solve a real problem faced by a real organization. While this project is not as extensive as a program capstone project, it gives the students the necessary exposure to industry-relevant issues to prepare them for the future challenge of conducting a final program capstone project, and subsequently pursuing a successful career as IT professionals.

VIII. Course Format

The class meetings are split into two main components: lectures, and class discussions. The lectures cover topics outlined in this syllabus. The class discussions are based on recent articles taken from online industry publications such as *Optimize* and *CIO Magazine*, which are freely available from the Web. The instructor provides the links to the articles, which are then downloaded by the students and read prior to the class. In class, the students discuss the articles in small teams for about 20 minutes, developing three provocative questions per team. This is followed by a discussion involving the whole class, where each team asks one of the questions they developed, and other teams answer them, until all teams asked at least one of their questions. This discussion format is likely to lead to lively debate on topics that are directly addressed by the article, as well as on topics that are indirectly related to the article.

Classroom Hours (3 hours per week)

Class: 3

Lab: 0

IX. Topics to be Covered

- A. Ethical issues, legal issues, and effective teamwork
 - 1. Ethical and legal issues in business process redesign (BPR)
 - 2. Typical BPR team composition
 - 3. Conflict resolution in BPR teams
 - 4. Effective teamwork in BPR teams
- B. A historical view of BPR
 - 1. Taylor's scientific management method
 - 2. Total quality management
 - 3. Business process re-engineering
 - 4. IT-driven BPR
 - 5. Contemporary BPR practices

- C. Concepts and methods
 - 1. Business process modeling
 - 2. The hypercommunication syndrome
 - 3. Communication flow-oriented BPR
 - 4. Workflow-oriented BPR
 - 5. Information and knowledge flow redesign
 - 6. Business process outsourcing
 - 7. Off-the-shelf package customization to support BPR
- D. Advanced issues
 - 1. Web-based IT-driven BPR
 - 2. Data mining applications for BPR
 - 3. BPR types and failure rates
 - 4. Personnel issues in connection with BPR
 - 5. Combining incremental and radical forms of BPR

X. Laboratory Exercises

There is no laboratory component in this course.

XI. Technology Component

- A. In class, the instructor makes use of state-of-the art multimedia projection equipment and software. These are used to project slides and Web-based content, as well as play freely available Web-based video clips from Web sites covering topics relevant to the class (for example, CNN.com Technology).
- B. Outside class, the instructor uses Web-based course management software to interact with students, provide feedback on their performance, make available links to online articles, as well as receive documents (for example, draft versions of project reports) and provide feedback on them.

XII. Special Projects/Activities

The team project consists of meeting with members of a client organization (for example, a department at a large company or non-profit organization), gathering relevant information from them, and developing a document containing the following elements:

- A set of organizational problems that could potentially be solved through a business process redesign project. For example, a team may study a car rental company and find out that redesigning its car maintenance process could solve key problems facing the organization – for example, a shift from a remedial to predictive maintenance process structure may reduce costs and increase customer satisfaction.
- A detailed description of the current business process, and of the redesigned version of the business process. Both descriptions should incorporate tables and diagrams, which serve as a reference for the discussion of the several business process activities involved.
- A detailed description of the costs and potential benefits, from an organizational perspective, associated with the business process redesign project.

Oral presentation. Teams summarize and explain the information contained in their project document in an oral presentation in class at the end of the semester.

XIII. Textbooks and Teaching Aids

A. Required Textbook

Paul Harmon, *Business Process Change: A Manager's Guide to Improving, Redesigning, and Automating Processes*; Morgan Kaufmann; (December 18, 2002)
ISBN: 1558607587.

B. Alternative Textbooks

Ned Kock, *Business Process Improvement through E-Collaboration: Knowledge Sharing through the Use of Virtual Groups*; Idea Group Publishing; (December 2004).

C. Supplemental Print Materials

1. Ned Kock and Fred Murphy, *Redesigning Acquisition Processes: A New Methodology Based on the Flow of Knowledge and Information*; (2001), Defense Acquisition University Press, Fort Belvoir, VA. (Available for free download from: <http://www.dau.mil/pubs/misc/earp.asp>)
2. Kock, N. (2002), *Managing with Web-based IT in Mind*, *Communications of the ACM*, V.45, No.5, pp. 102-106, The Association for Computing Machinery, New York, NY]

D. Supplemental Online Materials

Recent articles taken from online industry publications such as Optimize and CIO Magazine. The instructor provides the links to the articles, which are freely available from the Web.