Course Title: ITAP 4372: E-Collaboration

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 using e-collaboration technologies to support teams conducting collaborative tasks in organizations. The course is designed so as to cover topics that are relevant from an e-collaboration technology implementation and use perspective; particularly one that addresses collaborative tasks conducted by physically distributed organizational users. It includes a mix of lectures (some of which are conducted in the laboratory) 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 e-collaboration topics and understand the related terms and issues that are important for professionals around the world who are responsible for the implementation, use and management of e-collaboration technologies. Additionally, the course provides the students with the communication, leadership and teamwork skills necessary to effectively work as professionals in e-collaboration technology-supported teams, or managers in charge of e-collaboration technology-supported teams, conducting complex collaborative tasks in organizations. Finally, the course imparts on the students an understanding of e-collaboration technologies as more than electronic communication toys, that is, as important technologies that support the core and mission-critical business processes of organizations.

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 e-collaboration. It then proceeds with a review of basic e-collaboration technologies, such as e-mail, instant messaging, text-based asynchronous conferencing systems, multimedia asynchronous conferencing systems, collaborative workspaces, and electronic calendaring systems. Next the course covers advanced e-collaboration technologies. These include client-server and peer-to-peer e-collaboration system development suites, desktop video-conferencing implementation suites, synchronous e-collaboration system development suites, and virtual reality environments. The course concludes with a discussion of organizational effects of e-collaboration technologies. That discussion addresses effects in connection with several types of tasks and group configurations. The emphasis in this course is on rapid e-collaboration technology implementation using development suites, as well as on the use and management of e-collaboration technologies, rather than on low-level design and implementation of e-collaboration technologies (whose coverage here is minimal).

IV. Requirements Fulfilled

This course is an elective for students in the College of Information Technology. It can be taken to satisfy the three-credit IT elective requirement of the B.S. in 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 e-collaboration issues and understand the related terms and issues relevant to e-collaboration technology implementers, users, and managers around the world.
- To acquire the communication, leadership, and teamwork skills necessary for effectively work as professionals in teams, or in charge of teams, employing e-collaboration technologies to perform complex collaborative tasks.
- To understand the role of e-collaboration technologies as resources that support the core and mission-critical business processes of organizations.

VII. Assessment Strategy

Students are assessed based on: their performance in 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 e-collaboration. 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

Four of the course's class meetings are used for laboratory demonstrations and activities geared at helping the students learn the several steps involved in implementing, using, and managing an e-collaboration environment aimed at supporting the work of teams engaged in complex collaborative tasks. The other 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 *Computerworld* and *CTO 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 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/lab: 3**

IX. Topics to be Covered

A. Ethical issues, legal issues, and effective teamwork
   1. Ethical and legal issues related to e-collaboration
   2. Typical team structures for e-collaboration technology-supported tasks
   3. Conflict resolution in e-collaboration technology-supported teams
   4. Effective teamwork in e-collaboration technology-supported teams

B. Basic e-collaboration technologies
   1. E-mail
   2. Instant messaging
   3. Text-based asynchronous conferencing systems
   4. Multimedia asynchronous conferencing systems
   5. Collaborative workspaces
   6. Electronic calendaring systems

C. Advanced e-collaboration technologies
   1. Client-server e-collaboration system development suites
   2. Peer-to-peer e-collaboration system development suites
   3. Desktop video-conferencing implementation suites
   4. Synchronous e-collaboration system development suites
   5. Virtual reality environments

D. Organizational effects of e-collaboration technologies
   1. Effects on relationship building tasks
   2. Effects on knowledge transfer tasks
   3. Effects on simple tasks
   4. Effects on complex collaborative tasks
   5. Effects on dyads
   6. Effects on small groups
   7. Effects on large groups

X. Laboratory Exercises

This course has fouir laboratory sessions, which are scheduled using time from standard class meetings. In the laboratory sessions, students learn the several steps involved in implementing, using, and managing an e-collaboration environment aimed at supporting the work of teams engaged in complex collaborative tasks. The e-collaboration environment implemented includes most of the technological features necessary for synchronous and asynchronous team interaction, using audio, video, text, or combinations of these media. The e-collaboration environment also includes public and private workspaces, where team members can share files and documents in connection with their main collaborative task and related subtasks.

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.

C. Outside class, in the laboratory setting, the instructor makes use of industry-strength commercial e-collaboration technology development software to create a simulated e-collaboration environment.

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 the implementation of an e-collaboration technology. For example, a team may study a manufacturing organization that is working toward certification based on a quality standard (for example, ISO 9000), and find out that the use of a particular e-collaboration technology could solve key problems facing the organization - for example, by allowing quality improvement teams whose members work different shifts to interact asynchronously.
- A detailed description of an e-collaboration technology solution to the problems above. This description should include hardware and software details, as well as details in connection with how the e-collaboration technology is integrated with existing technologies in the client organization.
- A detailed description of the costs and potential benefits, from an organizational perspective, associated with the e-collaboration technology solution.

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

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

B. Alternative Textbooks

Ned Kock, *Process Improvement and Organizational Learning: The Role of Collaboration Technologies*, Idea Group Publishing, (December 1999)
ISBN: 1930708734.

C. Supplemental Print Materials

1. Kock, Ned (2001), *Asynchronous and Distributed Process Improvement: The Role of Collaborative Technologies*, Information Systems Journal, V.11, No.2, pp. 87-110, Blackwell Science, Oxford, England
2. Kock, Ned and D'Arcy, John, *Resolving the E-collaboration Paradox: The Competing Influences of Media Naturalness and Compensatory Adaptation*, Information Management and Consulting (Special Issue on Electronic Collaboration), (2002), V.17, No.4, pp. 72-78, Information Management Institute, Frankfurt, Germany

D. Supplemental Online Materials

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