BUSI 4404 A
IT Infrastructure
Winter 2013

Instructor: Teddy Boyce
Office: TBA Dunton Tower
Telephone: 520-2600 Ext. TBA
Fax: 520-4427
E-mail: TBA
Course Website:
Office Hours: Tuesday 5:00 p.m. – 6:00 p.m.

Schedule: Tuesday 6:05-8:55 p.m.
Location: Southam Hall 317

Prerequisites: Third-year standing and BUSI 2400 (with a grade of C- or better). Lectures three hours a week.

The School of Business enforces all prerequisites. It is your responsibility to ensure you meet the prerequisite requirements for this course. If you have taken a course or courses that you think is/are equivalent to the prerequisites specified for this course, you must show proof to the Undergraduate Adviser. Please bring in your transcript and course description(s). Failure to document this requirement will lead to mandatory deregistration. Only the School of Business can waive prerequisite requirements.

Course description

Challenges and issues managers face in assembling the infrastructure for IT service delivery. IT Service levels, data communications, networks (LAN, MAN, WAN, wireless), internetworking, SOA, web services, SaaS, server and storage virtualization, network security, business continuity and disaster recovery.

Introduction

Telecommunications and data networking technologies are transforming how IT services are delivered in organizations. People and organizations increasingly are conducting their work and operations across time and space using computing and telecommunication networks. The technologies and applications afforded by these networks portend significant management challenges. Businesses now depend on information and telecommunications technologies and services for their survival and profitability. The strategic impact of IT infrastructure on the firm’s value chain is enormous. Managers
therefore, must become familiar and conversant with the technologies underpinning IT Infrastructure and how best to apply and exploit them in generating business value.

**Course Objectives**

The course is designed for business students who need to develop an understanding of IT infrastructure issues and technologies and the challenges and opportunities associated with them. While it does cover some technical issues related to data and telecommunications the course is not designed to train computer and telecommunications networking engineers.

The course will:
- enable students to develop an understanding of the fundamental concepts of telecommunications, data communications and networking.
- familiarize students with network technologies, protocols and standards.
- explore the managerial considerations surrounding telecommunications and networking applications design, procurement and deployment.
- address issues related to the impact of telecommunications and networking technologies on the globalization of business activity and electronic commerce.

**Required Text Book**


The e-book can be purchased directly online at: [http://ca.wiley.com/WileyCDA/Section/id-814611.html](http://ca.wiley.com/WileyCDA/Section/id-814611.html)

**Other References**


**Online References**


**Evaluation and Grading**
Grades will be based three (3) assignments, a midterm exam, a group project, and a final exam. The distribution of marks towards the final grade will be as follows:

<table>
<thead>
<tr>
<th>Individual Assignment and Quizzes</th>
<th>20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm</td>
<td>25%</td>
</tr>
<tr>
<td>Final Project</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Individual Assignment**

Students will do three individual assignments. At least two will be hands-on and based on material taken from the textbook. Source and due dates for the assignments are listed in the Course Schedule below.

**Quizzes**

A number of quizzes will be given during the term. Quizzes may be given unannounced. They will cover material in both the previous chapters and the chapter that is being covered on that particular day. There is no make-up for missed quizzes.

**Final Project**

For the team project, students working in groups of up to four people should conduct a case study of a local company, not-for-profit organization, or government entity faced with a specific IT infrastructure management challenge (strategic, technical, or operational). A solution to the challenge should be proposed. Each group will then develop a **request for proposal (RFP)** document (see pages 422-423 in textbook) that could be sent out to potential service providers to address the requirements outlined. Particular focus should be given to small and medium enterprises.

**Project Deliverables**

Deliverables for the team project include the following: a project proposal, project report, project presentation, project summary and a peer evaluation.

1. **Proposal**: The proposal should outline what the team plans to investigate and report on. It should contain the following: a title for the project, a short description and rationale, possible sources of information, resources that may be needed, and a project management schedule. I will review each project proposal to verify its appropriateness for the course. The proposals must be submitted by the third class meeting.
2. **Project Report**: The project report should be constructed as a formal request for proposal. A request for proposal should contain at least the following: title page, an executive summary page; table of contents and figures; organizational overview; description of the problem; scope and requirements of desired solution; format, content, and due date of response; evaluation criteria; estimated decision date; information required from the vendor; references; and appropriate appendices and illustrations. It should not be more than 5000 words in length, excluding appendices and illustrations.

3. **Project Presentation**: Each team will give an in-class presentation of its project lasting no more than 15 minutes. This will consist of 12 minutes for the actual presentation and 3 minutes for questions. The limited presentation time makes it imperative for the group to organize what is to be presented. Visual aids should be used to enliven the presentations. However, these must be well designed and clear. All team members should take part in the presentation.

4. **Project Summary**: Each team will provide a 1 page summary (could be the same as the executive summary) of the project in HTML format to be placed on the course website. This should be emailed to the course instructor by 12:00 noon on the day the projects are due.

5. **Peer Evaluation**: Each student will be required to take part in two peer evaluation exercises. One of the project team presentations and one of his or her peers’ involvement and performance in the project team. The evaluation of the presentation should be submitted at the end of the class session in which the presentation was given. The evaluation of team member involvement and performance in the project preparation and presentation, and team formation and development should be submitted to me (in print) by the last day of classes. **Failure to submit an evaluation will lead to a loss of 5% of your project grade.** Please check out the peer evaluation documents on WebCT.

**Example Project Focus Areas (Not an exhaustive list):**

- Data and Telecommunications strategy
- LAN equipment and hardware provision
- Voice over IP telephone services
- Remote and mobile network access services
- Network management services
- Security and disaster recovery services
- Desktop management and support services
- Virtual Private Network
- Cloud Computing
- Managed Web hosting services

**Assignment Submission**
All written assignments including the group project should be submitted to the Professor by 6:00 p.m., CuLearn, on the day they are due. Additionally, all assignments should be printed and submitted to the professor in class on the due date. **Please do not include extra binding or folders. All documents should have the student’s name, number, email address and course section. It is the student’s responsibility to ensure that all assignments**
are received in an accessible format on or before the due date. Assignments are due at the time indicated. Late assignments will be marked down by 10% for every calendar day late.

**Class news and updates to class outline and schedule**

Please check the class webpage at [http://culearn.carleton.ca](http://culearn.carleton.ca) for regular news and updates.

**Class Schedule – Winter 2013**

<table>
<thead>
<tr>
<th>Dates</th>
<th>Topic</th>
<th>Group Assignment /Guest Speakers</th>
<th>Readings/ Individual Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 8</td>
<td>Introduction to Data Communications</td>
<td></td>
<td>Chapter 1</td>
</tr>
<tr>
<td>15</td>
<td>Application Layer</td>
<td></td>
<td>Chapters 2</td>
</tr>
<tr>
<td>22</td>
<td>Physical Layer</td>
<td></td>
<td>Chapter 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Assignment 1: Hands on Activity: Analyze client/server interaction and network layering using protocol analyzer.</strong></td>
</tr>
<tr>
<td>29</td>
<td>Data Link Layer</td>
<td></td>
<td>Chapters 4</td>
</tr>
<tr>
<td></td>
<td>Network and Transport Layer</td>
<td></td>
<td>Chapter 5</td>
</tr>
<tr>
<td>February 4</td>
<td>Local Area Networks (Wired &amp; Wireless)</td>
<td></td>
<td>Chapter 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Assignment 2: Hands on activity p. 188-192</strong></td>
</tr>
<tr>
<td>11</td>
<td>Backbone Networks</td>
<td></td>
<td>Chapters 7</td>
</tr>
<tr>
<td><strong>19</strong></td>
<td><strong>Winter Break</strong></td>
<td>No Class</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Midterm Exam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>March 5</td>
<td>Metropolitan and Wide Area Network The Internet</td>
<td></td>
<td>Chapters 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chapter 9</td>
</tr>
</tbody>
</table>
12 | Network Security | Chapter 10 | Assignment 3: TBA
---|-------------------|------------|------------------
19 | Network Design   | Chapter 11 |
26 | Network Management | Chapter 12 |
April 2 | Project Presentations | All Projects Due |
TBA | Final Examinations | As per Exam Schedule |

**IMPORTANT ADDITIONAL INFORMATION**

**Required calculator in BUSI course examinations**
If you are purchasing a calculator, we recommend any one of the following options: Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII

**Group work**
The Sprott School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, follow-ship and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your professor may assign one or more group tasks/assignments/projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

**Medical certificate**
Please note that in all occasions that call for a medical certificate you must use or furnish the information demanded in the standard university form. [http://www2.carleton.ca/registrar/forms/](http://www2.carleton.ca/registrar/forms/)

**Academic Accommodations for Students with Disabilities**
The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

**Religious observance**
Students requesting academic accommodation on the basis of religious observance should make a formal, written request to their instructors for alternate dates and/or means of satisfying academic requirements. Such requests should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory academic event. Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Instructors will make accommodations in a way that avoids academic disadvantage to the student. Students or instructors who have questions or want to confirm accommodation eligibility of a religious event or practice may refer to the Equity Services website for a list of holy days and Carleton's Academic Accommodation policies, or may contact an Equity Services Advisor in the Equity Services Department for assistance.

**Pregnancy**

Pregnant students requiring academic accommodations are encouraged to contact an Equity Advisor in Equity Services to complete a letter of accommodation. The student must then make an appointment to discuss her needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.

**Plagiarism**

The University Senate defines plagiarism in the regulations on instructional offenses as: "to use and pass off as one's own idea or product work of another without expressly giving credit to another."

Borrowing someone else's answers, unauthorized possession of tests or answers to tests, or possession of material designed in answering exam questions, are also subject to university policy regarding instructional offences. For more information on Carleton University's Academic Integrity Policy, consult: [http://www1.carleton.ca/studentaffairs/academic-integrity/](http://www1.carleton.ca/studentaffairs/academic-integrity/)

**Important Dates & Deadlines – Winter 2013**

**January 7, 2013**

Winter-term classes begin.

**January 18, 2013**

Last day for registration for winter term courses.
Last day to change courses or sections for winter term courses.

**January 31, 2013**

Last day for withdrawal from winter term and winter portion of fall/winter courses with full fee adjustment.

**February 1, 2013**
Last day for receipt of applications for admission to the Bachelor of Architectural Studies and the Bachelor of Social Work degree programs for the 2013-14 fall/winter session.

**February 15, 2013**

April examination schedule available online.

**February 15-23, 2013**

Fall-term deferred examinations will be written. Examinations are normally held in the day and evening during the Monday to Saturday period. In exceptional circumstances, it may be necessary to schedule an examination on a Sunday.

**February 18, 2013**

Statutory holiday. University closed.

**February 18-22, 2013**

Winter Break, classes suspended.

**March 1, 2013**

Last day for receipt of applications from potential Spring (June) graduates. Last day for receipt of applications to the Bachelor of Humanities, Bachelor of Industrial Design, Bachelor of Information Technology (Interactive Multimedia and Design), Bachelor of Journalism, and the Bachelor of Music degree program for the 2013-2014 fall/winter session. Last day for receipt of applications for admission to a program for the 2013 summer terms.

**March 8, 2013**

Last day to submit, to the Paul Menton Centre for Students with Disabilities, Formal Examination Accommodation Forms for April examinations.

**March 27, 2013**

Last day for tests or examinations in courses below the 4000-level before the final examination period (see Examination Regulations in the Academic Regulations of the University section of this Calendar).

**March 29, 2013**

Statutory holiday. University closed.
April 1, 2013

Last day for receipt of applications for admission to a program (except Bachelor of Architectural Studies, Bachelor of Humanities, Bachelor of Industrial Design, Bachelor of Information Technology (Interactive Multimedia and Design), Bachelor of Journalism, Bachelor of Music, and Bachelor of Social Work, for the 2013-2014 fall/winter session, from candidates whose documents originate outside Canada or the United States.

April 10, 2013

Winter term ends.
All classes follow a FRIDAY schedule.
Last day of fall/winter and winter-term classes.
Last day for academic withdrawal from fall/winter and winter-term courses.
Last day for handing in term work and the last day that can be specified by a course instructor as a due date for term work for fall/winter and winter-term courses.

April 11-12, 2013

Review period. No classes take place.

April 13-27, 2013

Final examinations in winter term and fall/winter courses may be held. It may be necessary to schedule examinations during the day for classes held in the evening and vice versa. In exceptional circumstances, it may be necessary to schedule an examination on a Sunday.

April 16, 2013

Winter Co-op Work Term Reports are due.

April 27, 2013

All take home examinations are due on this day.