Instructor: Lance Larson, Ph.D., CISSP

Office: CSL-120
Office Hours: T, TH 1:00-1:50pm in CSL-120 or By Appointment
Office Phone: (949) 682-8804
E-mail Address: llarson@mail.sdsu.edu (school, primary)
              lance@larsoncorporation.com (business, secondary)
Course Page: http://blackboard.sdsu.edu/
Class Hours: T 4:00-6:40 pm
Classroom: EBA-256

1. Goals & Objectives
This course is designed to expose students to fundamental knowledge in networking elements including protocols, end
stations, network devices, standard architectures, network topology, and other hardware and software elements, and
how they work in isolation and in harmony. With computer networks becoming the backbone of an organization and the
society, understanding technical and non-technical issues related to it is fundamental to build a successful IT or IT-related
career.

If a student’s career goal is to become a professional in the networking field, this class becomes an initial stepping stone
to the ultimate acquisition of advanced knowledge and experience necessary for assessing, planning, purchasing,
administering, installing, maintaining, and updating network components and infrastructure. Networking is a gigantic
field, and according to the US Department of Labor Bureau, network systems and data communications analysts, and
network administrators are the fastest growing occupations in the US.

2. MSBA Program Goals:
This course contributes toward achieving the MSBA program goals.  MSBA students will graduate being able to:
• Analyze organizational data, information, and knowledge requirements for the design and implementation of
  information systems
• Understand implications of enterprise information technology infrastructure and architecture in a global
  environment.
• Align information strategy with organizational strategy.
• Understand information technology threats and challenges and trends in the global environment.

MIS 687 contributes to these goals through its student learning outcomes . . .
1. Comprehend and explain general networking terminologies.
2. Understand software and hardware elements necessary to implement a network.
3. Explain internetworking, transmission media, and network protocols.
4. Discuss and compare major network standards for LAN and WAN and their technical differences.
5. Develop preliminary competence to design, analyze, and implement small-scale networks.
6. Articulate general approaches available to implement security measures on a computer network.
7. Discuss standard architectures, layers, and key protocols of each layer.
8. Explain the Internet architecture.

3. Topics to be covered
Unit 1: Fundamentals of computer networking 1 Week
Unit 2: Standard architecture, network layers, and layer functions 1.5 Weeks
Unit 3: Networking Devices 1 Week
Unit 4: Elements of data transmission 1 Week
Unit 5: IP Addressing 1.5 Weeks
Unit 6: The Internet and Routing Protocols 1.5 Week
Unit 7: Ethernet 1.5 Week
Unit 8: Wireless LAN 1 Week
Unit 9: Wide Area Networks 1.5 Weeks
Unit 10: Network Security 1.5 Weeks

4. Course Design
To effectively realize the learning objectives and outcomes, this course relies on various pedagogical approaches: reading assignments and subsequent quizzes, classroom lectures and discussions, and hands-on assignments. The reading assignment is an important self-learning tool and the classroom lecture is designed to supplement the reading assignment by clarifying and elaborating challenging concepts and by going over the review questions. This is an introductory course on networking and therefore during the lecture the instructor will be assuming that students do not have an extensive background in networking.

5. Instructor Availability
In-class is the best medium for answering questions about course content, as the answer benefits the entire class. It is, however, the goal of the course instructor to be available outside of class to answer any questions about course schedule, policy or to discuss extenuating circumstances. The best way to reach your instructor is by email. E-mail is checked often, but you may also telephone your instructor at the phone number above. Office hours are also available at the times listed above.

6. Required Textbook & Reference Sources
- References: There are useful Internet sources that can help grow your knowledge base. They can be especially beneficial when the textbook lacks specific explanation. Please note, these sources do not normally contain academically vetted or peer-reviewed information, and should be used to grasp general and overall ideas.
  
  | Techencyclopedia | http://www.techweb.com/encyclopedia/ |
  | Whatis.com        | http://whatis.techtarget.com/     |
  | Howstuffworks.com | http://www.howstuffworks.com/      |
  | Webopedia         | http://www.webopedia.com/         |
  | Protocols.com     | http://www.protocols.com/         |

7. General Class Policy
- Although not the part of course grading, attendance is important to earn a high grade. Computer networking is a difficult topic and students should make much effort to meet the challenge, and participate accordingly.
- Course information including the syllabus, hands-on assignments, and exam/quiz scores will be updated on Blackboard. Students are required to check Blackboard on a regular basis to keep informed of updates, especially test and assignment scores.
- All students should turn off their cell phones and laptop computers during the class to avoid distraction. Anyone using a laptop/mobile device during class without the instructor’s permission will be asked to leave.
- Please be punctual. Being late is a disrespectful behavior to the instructor and classmates.
- Academic dishonesty is against university rules and regulation. Students caught giving or receiving assistance to/from another student(s) during an exam will be asked to leave and will receive an F for the course, PERIOD. Every case will be reported to the Center for Student Rights and Responsibilities for possible disciplinary action. Visit http://www.sa.sdsu.edu/srr/index.html for more information on academic dishonesty.
- As for individual assignments, students can work together to resolve challenging issues. However, collaboration must not extend to the preparation of the report. Similarity in writing will be evaluated as potential evidence of
excessive collaboration and be dealt with according to the University rules of academic dishonesty. Copying is 
ever acceptable.

8. Exam and Grading Policy

**Exams**
- There are three exams — the third exam being the final. All exams must be taken at their scheduled time and at the 
course venue. No early or late examinations unless a student experiences an emergency situation.
- Test questions are based on the assigned textbook chapters and lectures.
- Exams are generally not cumulative. However, the instructor may include previous chapters as necessary.
- Test questions will be multiple-choice and students are required to bring a Scantron (Form 882-E).
- Each test is 100 points. Warning: Tests are not easy. You should invest enough time and efforts to thoroughly review 
covered chapters to receive high scores. Based on the previous experience for the course, the class average is 
between 60 and 70.
- Students with disabilities or specific religious preferences needing academic accommodation should contact the 
instructor during the first week of the semester, to ensure proper accommodations are made.

**Additional Policy**
- Individual extra-credit opportunities will not be provided.
- There will be no official letter grading for mid-term tests. The course letter grade will be decided only after the final 
exam, based on the combined scores of tests, assignments, and quizzes. That means every scoring opportunity is 
equally important!
- The posting of final grades will be made on the university system, and you will be notified via email. Any final 
questions for grading should be done within one week of the posted final grade.
- Cautionary note: If you are not an IS major, chances are that it will take time to get yourself up to speed. The final 
grade, therefore, does not necessarily reflect your academic competence.

**Assignments**
- Multiple individual assignments are planned throughout the semester, mainly based on a networking simulation 
program. The program will be posted on Blackboard for downloading.
- Students should start working on each assignment early rather than waiting until the last moment because there will 
be unexpected problems. Sending a frantic last-minute email to your instructor is not good time management, and 
may not be answered in time to assist you in completing the assignment (start your assignments earlier rather than 
later).
- No make-up opportunity will be given for a missed assignment.
- All assignments that need a written report should be submitted at the beginning of a class.
- All written reports required should be produced with quality that is expected in a professional work environment. 
Please do not turn-in unprofessional work products.

**Quiz**
At the beginning of a class, there will be a roll-call quiz to decide class preparedness (see the class schedule below). 
There are numerous technical concepts and acronyms in the networking field and there is simply not enough time to 
cover them all during class time. To make up the gap, students should read assigned sections in advance and digest 
them to prepare for the class discussion. In preparing for the quiz:
- The assigned portion of the textbook should be read meticulously. Reading chapters once will not be 
enough to grasp the content.
- Each quiz with 5 questions uses the multiple-choice format. Many of them will ask the identification of 
either a correct or an incorrect statement.
- Quiz scores will be continuously updated on Blackboard and you are responsible to report any discrepancies 
immediately. At the end of the semester, the two lowest scores will be dropped from the grading calculation.
Quiz questions are designed to assess a student's readiness to participate in the class.

The reading assignments below may be adjusted according to the class progress; any changes in coverage will be announced in the class.

**Grading**

- The final grade will be based on three in-class exams, quizzes, and hands-on assignments. Their weights are shown below (hands-on scores are approximate). The weights slightly vary depending on the number of hands-on assignments and quizzes.

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm #1</td>
<td>100</td>
</tr>
<tr>
<td>Midterm #2</td>
<td>100</td>
</tr>
<tr>
<td>Final test</td>
<td>100</td>
</tr>
<tr>
<td>Quizzes</td>
<td>50+</td>
</tr>
<tr>
<td>Hands-on assignments</td>
<td>50+</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>400+</td>
</tr>
</tbody>
</table>

- After the class is complete for the semester, if the average of student final grades for the class are cumulatively under 70%, final grades will be weighted to equal an average of 70%. If the average of student final grades for the class are cumulatively over 70%, final grades will not be adjusted.

**8. Optional Class Activity**

During the semester, there will be an opportunity to visit a Class-A Data Center in San Diego or Los Angeles outside of class time. The data center is live and fully operational, serving approximately 10,000 customers using fiber optics, switching equipment, IP addressing, and Ethernet data transmission strategies. Students will have full access to the datacenter and employees. The visit is optional and does not affect your grade in the course. This is a great opportunity to see the application of your coursework in industry. Students are encouraged to share rides and drive safely. Travel time from the university will be approximately 2 hours. During the course, a survey will be passed-around in class to determine the date and time most convenient for the majority of students who would like to attend.
### 9. Class Schedule/Reading Assignments

#### MIS687 2013 Fall COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics, Reading &amp; Research</th>
<th>Reading &amp; Assignments Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 27</td>
<td>Introduction to the Course</td>
<td></td>
</tr>
<tr>
<td>Sep 3</td>
<td>Chapter 1: Fundamental Elements</td>
<td>pp. 1–32 Ch. 1 Reading Quiz</td>
</tr>
<tr>
<td>Sep 10</td>
<td>Chapter 2: Architectures and Standards</td>
<td>pp. 37–66 Ch. 2 Reading Quiz</td>
</tr>
<tr>
<td>Sep 17</td>
<td>Chapter 3: Networking Devices</td>
<td>pp. 71–103 Ch. 3 Reading Quiz</td>
</tr>
<tr>
<td>Sep 24</td>
<td><strong>Midterm Exam 1</strong></td>
<td>Scantron 882-ES</td>
</tr>
<tr>
<td>Oct 1</td>
<td>Chapter 4: Elements of Data Transmission</td>
<td>pp. 109–139 Ch. 4 Reading Quiz</td>
</tr>
<tr>
<td>Oct 8</td>
<td>Chapter 5: IP Address</td>
<td>pp. 145–156 (up to 5.6.4)</td>
</tr>
<tr>
<td>Oct 15</td>
<td>Chapter 5: IP Address</td>
<td>pp. 156–175 Ch. 5 Reading Quiz</td>
</tr>
<tr>
<td>Oct 22</td>
<td>Chapter 7: Ethernet (IEEE 802.3)</td>
<td>pp. 211–233 (up to 7.9)</td>
</tr>
<tr>
<td>Oct 29</td>
<td>Chapter 7: Ethernet (IEEE 802.3)</td>
<td>pp. 233–246 Ch. 7 Reading Quiz</td>
</tr>
<tr>
<td>Nov 5</td>
<td><strong>Midterm Exam 2</strong></td>
<td>Scantron 882-ES</td>
</tr>
<tr>
<td>Nov 12</td>
<td>Chapter 8: Wireless LAN</td>
<td>pp. 251–280 Ch. 8 Reading Quiz</td>
</tr>
<tr>
<td>Nov 19</td>
<td>Chapter 10: Internet</td>
<td>pp. 321–354 Ch. 10 Reading Quiz</td>
</tr>
<tr>
<td>Nov 26</td>
<td>Chapter 11: Network Security</td>
<td>pp. 359–380 Ch. 11 Reading Quiz</td>
</tr>
<tr>
<td>Dec 3</td>
<td>Chapter 12: Network Security</td>
<td>pp. 385–408 Ch. 12 Reading Quiz</td>
</tr>
<tr>
<td>Dec 10</td>
<td>Final Exam Review and Wrap-up</td>
<td></td>
</tr>
</tbody>
</table>
The final exam date and time for your class is shown below. **EXAMS CANNOT BE TAKEN AT ALTERNATIVE TIMES!**

Final Exam Date and Time for Fall 2013

<table>
<thead>
<tr>
<th>CLASSROOM</th>
<th>DATE</th>
<th>EXAM TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBA-256</td>
<td>TUESDAY, DEC 17TH</td>
<td>4:00PM – 6:00PM</td>
</tr>
</tbody>
</table>

Note: These are the official dates/times set by the University. I am unable to change the dates/times of a final exam so plan your travel accordingly! It is not possible to take the final exam at another time!
10. Acknowledgement

Please print your name, date, red-id, and signature to acknowledge that you understand the student expectations contained within, academic dishonesty policy, and have received the course syllabus.

________________________       ____________
Name            Red-ID

________________________  ____________
Signature        Date

* Please sign and return to your instructor, on the first or second day of class