Introduction to Computer Networks and Network Management
CSCI 446
— Spring 2016 —

General Information

Instructor  Dr. Hamouda, E.
Office      OCNL 228
Office Hours TW 11 AM –12:15 PM
Phone       (530) 898-5480

Section 1  Lecture MW 3:00–3:50 PM in OCNL 121
           Lab T 8:00–11:00 AM in OCNL 340

Section 3  Lecture MW 4:00–4:50 PM in OCNL 123
           Lab R 8:00–11:00 AM in OCNL 340

           ISBN: 978-0-12-385059-1

Course Description

This course is an introduction to basic networking technologies and network management concepts, including
major network operating systems, communication architecture focusing on ISO and Internet models with
discussion of current standards and protocols. Significant laboratory work using current networking equip-
ment reinforces lectures and provides fundamental experience with router and switch management. 2 hours
lecture, 3 hours laboratory.

Course Prerequisites

CSCI 211 and one of CINS 220 or CSCI 221 or EECE 237, all with a grade of C or higher.

Academic Evaluation

- Labs 20%
- Programs/Assignments 20%
- Exams 30% (exams are equally weighted)
- Final 30%

Grading Policies

- Labs are due at the start of the the following lab meeting.
- Prelabs will be collected at the start of the lab and will not be accepted after the due date.
- Except for prelabs, all assignments (programs, labs, homework) turned in 1-24 hours after the due date
will lose 20%.
- Grades will be posted on Learn.
• All grading corrections must be done within one week from the date the grade is posted. After one week, grades will not be reviewed.
• Any assignment (program, lab, prelab, homework) sent to my email (before or after the deadline) will NOT be accepted.
• All assignments (program, lab, prelab, homework) due dates will be posted on every assignment.

Make sure to download and keep a copy of all assignments and labs. For labs and assignments that will be posted on Blackboard, they will not be available once the deadline is over.

Labs
Every week, you will complete a lab in pairs using hardware in OCNL 340. These labs provide you the opportunity to experiment and investigate the material covered in lecture.

Programs/Assignments
You will complete:
• Several programming assignments in C or C++ to implement some of the topics covered in lecture. **Before you turn in your program, make sure it compiles and runs in OCNL 340. Any program that does not compile in OCNL 340, will receive a grade of zero.**
• You will complete several written assignments (problem solving) over the semester to enhance material covered in lecture. It is preferred that you turn in typed homework to facilitate grading.

Exams and Final
Two exams and a cumulative final exam will test your understanding of the course material. The university posts the Final Exam time and location, so check Learn periodically.

Note the following course policies concerning exams:
• You may not leave and return to class during an exam session, so use the restroom before starting an exam. Exceptions will be made for medical necessity if arranged in advance.
• You may not start an exam after another student has completed the exam and left.
• No makeup exams will be provided unless under extreme circumstances (death in the family, sickness), with a supportive document (doctor document, etc.).
• Wireless devices must be turned off or put on silent mode and stored away during lectures, labs and exams.

Grade Classification
Grades are assigned based on student work according to the following criteria. I will round up decimal points to the nearest integer.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Class Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 - 100</td>
</tr>
<tr>
<td>A-</td>
<td>90 - 92</td>
</tr>
<tr>
<td>B+</td>
<td>87 - 89</td>
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<tr>
<td>B</td>
<td>83 - 86</td>
</tr>
<tr>
<td>B-</td>
<td>80 - 82</td>
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<tr>
<td>C+</td>
<td>77 - 79</td>
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<tr>
<td>C</td>
<td>73 - 76</td>
</tr>
<tr>
<td>C-</td>
<td>70 - 72</td>
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<tr>
<td>D+</td>
<td>67 - 69</td>
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<tr>
<td>D</td>
<td>63 - 66</td>
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<tr>
<td>F</td>
<td>0 - 59</td>
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Academic Integrity

All students will be held to high academic standards. Any academic misconduct, intentional or through negligence, may be reported to Student Judicial Affairs (SJD). A first offense (in any course) may result in a negative score equal to the assignment value. Further offenses result in a failing grade and referral to SJD. Egregious incidents of academic dishonesty may result in immediately failing the course and referral to SJD. If you have any doubts or questions about academic integrity, please see the Student Judicial Affairs website. If you have any doubts or questions about academic integrity, please see the [Student Judicial Affairs website](http://www.csuchico.edu/sjd/integrity.shtml)

Academic dishonesty includes, but is not limited to:

- Copying work from another student
- Providing work for another student to copy
- Copying work from unapproved sources (e.g., the Internet, a book)
- Failing to protect your work from copying (e.g., leaving your work in a public place, poor file permissions on shared systems)
- Receiving so much help that your work does not represent your efforts

Acceptable Behavior

Students must act in accordance with university guidelines and refrain from disrupting the learning environment. Any behavior that diminishes the learning opportunities of fellow students may result in eviction from the class, removal from the course, immediate failure of the course, or referral to Student Judicial Affairs.

Attendance and Punctuality

- Attendance during lecture is highly encouraged, but not required, except for days when Exams are given. You must arrive to class and turn any assignment due by the start of the lecture. Once the class starts, work loses 20%.
- In the event you miss class, you are responsible for all subject matter, announcement and procedural information discussed in class.

Get Help

In addition to my office hours, you can email me with any specific questions using your CSU-Chico email account. Make sure you put the course code and the section number (‘CSCI 446’) in the subject so it will be filtered correctly. All emails with no subject or not using CSU-Chico email will not be opened. I generally reply to emails within 24 hours. However, I may not respond to emails on weekends.

Religious Holidays

I will work with students so this class and its assignments, exams, and activities do not interfere with religious holidays. However, you must notify me ahead of time so we can make appropriate arrangements.

Americans with Disabilities Act

If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Accessibility Resource Center (ARC) as they are the designated department responsible for approving and coordinating reasonable accommodations

1[http://www.csuchico.edu/sjd/integrity.shtml](http://www.csuchico.edu/sjd/integrity.shtml)
and services for students with disabilities. ARC will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations.

**Confidentiality and Mandatory Reporting**

As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. I may also have a mandatory reporting responsibility related to my role. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep information you share private to the greatest extent possible. However, I am required to share information regarding sexual misconduct with the University. Students may speak to someone confidentially by contacting the Counseling and Wellness Center (898-6345) or Safe Place (898-3030). Information on campus reporting obligations and other Title IX related resources are available here: http://www.csuchico.edu/title-ix.

**Lecture Schedule**

The following is a tentative schedule for the semester. Due dates are approximate and subject to change; check Learn for exact dates.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
<th>Due Date</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Course overview</td>
<td>Chapter 1(1.1-1.5)</td>
<td></td>
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<tr>
<td>2</td>
<td>Links, layers, framing, error handling</td>
<td>Chapter 2(2.1-2.4)</td>
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<tr>
<td>3</td>
<td>Reliable transmission, sliding windows, MAC</td>
<td>Chapter 2(2.5-2.6)</td>
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<tr>
<td>4</td>
<td>Bridging and switching</td>
<td>Chapter 3(3.1)</td>
<td>Program 1/HW 1</td>
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<tr>
<td>5</td>
<td>Internetworking</td>
<td>Chapter 3(3.2.1-3.2.6)</td>
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<tr>
<td>6</td>
<td>IP Support and IPv6</td>
<td>Chapter 3(3.2.7-3.2.8),4(4.1.3)</td>
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<td>7</td>
<td><strong>Spring Break</strong></td>
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<tr>
<td>9</td>
<td>Routing and distance-vector protocol</td>
<td>Chapter 3(3.3.1-3.3.2)</td>
<td>Program 2/HW 2</td>
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<tr>
<td>10</td>
<td>Link state protocol</td>
<td>Chapter 3(3.3.3)</td>
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<tr>
<td>11</td>
<td>Exam II</td>
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<tr>
<td>12</td>
<td>Transport layer</td>
<td>Chapter 5(5.1-5.2)</td>
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<tr>
<td>13</td>
<td>Congestion control and resource allocation</td>
<td>Chapter 6(6.1-6.2)</td>
<td>Program 3/HW 3</td>
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<tr>
<td>14</td>
<td>TCP Congestion Control and HTTP</td>
<td>Chapter 6(6.3),9(9.1.2)</td>
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<td>15</td>
<td>HTTPS and DNS</td>
<td>Chapters 8(8.4.3),9(9.3.1)</td>
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<td>16</td>
<td>Wireless Communication (802.11)</td>
<td>Chapter 2(2.7)</td>
<td>Program 4/HW 4</td>
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<tr>
<td>17</td>
<td>Final Exam</td>
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<td>TBA</td>
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