Southern Illinois University Carbondale
College of Applied Sciences and Arts
Information Systems and Applied Technologies

ISAT-335 WAN Network Installation & Administration

Class Time and Location: 11:00 am – 12:15 pm Tuesday & Thursday, ASA Room 205

Instructor: Belle Woodward email: bellew@siu.edu Phone: (618) 453-7208

Office Location: ASA Room 101 (Engineering Complex - Building C - Second Floor) Mailbox
Location: ASA Room 106
Office Hours: Tuesday / Thursday 1:00pm-2:00pm, and 3:15pm-5:15 pm

Prerequisite: ISAT 224

Course Description: This course provides an in-depth look at the protocols that support communications across a WAN and the Internet. Students will develop a mastery of the TCP/IP suite and common application layer protocols as they implement them using industry standard hardware and software during lab exercises. IPv4 and IPv6 protocols and addressing will be covered in conjunction with routing concepts and WAN technologies and protocols. Required Resources:


Email: An active SIU e-mail account (by second day of class), instructor correspondence will be sent only to valid SIU e-mail accounts.

D2L Access: This course will use D2L (http://online.siu.edu) for posting announcements, assignments, notes, and grades.

Grading: Grade is calculated as a straight percentage of the total points for the semester.

<table>
<thead>
<tr>
<th>Assignment of Points</th>
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<tbody>
<tr>
<td>Midterm Exam</td>
<td>15%</td>
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<tr>
<td>Final Project</td>
<td>20%</td>
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<tr>
<td>Quizzes &amp; Homework</td>
<td>14%</td>
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<tr>
<td>Lab Activities</td>
<td>40%</td>
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<td>Attendance &amp; Participation</td>
<td>11%</td>
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Grading Scale

A  90-100%
B  80-89%
C  70-79%
D  60-69%
F  59% and below
Final Exam Date: TBD.

Attendance:
Much of the course work will be done in class, and attendance is mandatory. Students seeking an excused absence should notify the instructor before the actual absence. Excused absences will be granted for religious activities in accordance with University policy on Accommodating Religious Students (SIU 2011-2012 Undergraduate Catalog, p. 494), as long as the instructor is notified in advance.

If you miss a class session for any reason it is your responsibility to catch up with course materials and to determine any assignments, upcoming due dates, etc.

Be on time to class! Each time you are tardy (beyond 3 minutes late) or leave early without instructor approval will count as ½ unexcused absence.

The first unexcused absence will result in a 1% deduction from your final grade. Each additional unexcused absence will deduct 2% from your final grade, up to a maximum of 11% (the entire “Participation and Attendance” part of your grade).

If you leave early or come back late from a University holiday or break, the absence will not be excused.

Participation:
This is a measure of your contributions to the course and your engagement with the course material. Participation includes

• contributing to class discussion
• substantive interactions with other students and with the instructor
• active involvement with project teammates

Calculating Your Attendance & Participation Grade:
As indicated on page one, Attendance and Participation is worth 11% of your final grade. This will be calculated as follows: □ Start with 11%
• If any of the three items listed under Participation (above) are substandard, make appropriate deduction, up to 1.5% each
• If there are unexcused absences, make deductions as described under Attendance (above)

Being Prepared For Class:
Be on time to class! Class time is limited and it is up to you to make the most of it. Make sure you have completed the assigned readings. If there is anything you don’t understand, come prepared to ask pertinent questions.

Start on the assignments early! If you have trouble, email the instructor or attend office hours. I’m more than happy to help you overcome roadblocks as long as you have put sufficient time and effort into overcoming them yourselves.
Late Work:
In general, late assignments and missed quizzes & exams may not be made up unless specific approval is granted prior to the due date. Exceptions may be made to this policy if extenuating circumstances exist, but students must be able to provide proof of such circumstances (e.g., a doctor’s note in case of illness).

Mobile Devices:
Personal laptops may be used in class instead of or in addition to the University provided desktop computers. Use of other mobile devices (cell phones, tablets, etc.) is not permitted without explicit instructor approval. See also Classroom Distractions (below).

Classroom Distractions:
As with any public forum, the classroom is a shared space where consideration for others is a must. Behavior which is distracting to other students will not be permitted. Cell phones and other devices not related to class work must be off and put away. The use of desktop or laptop computers for purposes not related to class activities (e.g. social networking, shopping, etc.) is not permitted.

Academic Honesty:
Students are encouraged to help each other, discuss concepts, and share knowledge. However, a student may not use or copy (by any means) another’s work (or portions of it) and represent it as his/her own.

Students may be subject to disciplinary proceedings resulting in an academic penalty or disciplinary penalty for academic dishonesty. Academic dishonesty includes, but is not limited to, cheating on a test, plagiarism, or collusion.

Refer to the Student Conduct Code (http://policies.siu.edu/_common/documents/StudentConductCode.pdf) as well as the Morris Library Guide on Plagiarism (http://libguides.lib.siu.edu/plagiarism)

Other Course Policies:
If individuals are experiencing difficulty with deadlines, workloads, or any class related work please contact the instructor. Instructor reserves the right to apply these policies on a case-by-case basis.

The instructor reserves the right to change the course syllabus during the semester. Students will be notified of any changes in class as well as on the course web site.

Course Objectives: Upon successful completion of this course the student will be able to
• Explain the function and operation of TCP/IP as it pertains to the TCP/IP and OSI models
• Design a logical network using appropriate IP addressing
• Understand Various TCP/IP Transport and Application Layer Protocols
• Understand encapsulation and describe the process as it occurs across a network
• Install, configure, and operate simple routed LAN and WAN
• Connect and configure routers and troubleshoot connectivity issues during lab exercises
• Explain how to implement, configure, and generally operate a switch including the use of VLANs, and trunking protocols
• Understand how static routing and dynamic routing supports WAN communications
• Design, implement, and test an access control list
**Lab Exercises:** Approximately one per week  
**Quizzes:** Quizzes are expected, approximately 1 or 2 per week.  
**Midterm Exam:** Week 8

**Expected Course Schedule (subject to change):**

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<tr>
<th>DATE</th>
<th>LECTURE</th>
<th>HOMEWORK/LAB</th>
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<tr>
<td>Week 1</td>
<td>Lecture 1, 2 and 3</td>
<td>Homework 1 and 2</td>
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<tr>
<td>Week 2</td>
<td>Lecture 4 and 5</td>
<td>Lab 1 and 2</td>
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<td>Week 3</td>
<td>Lecture 6 and 7</td>
<td>Lab 3 and 4</td>
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<td>Week 4</td>
<td>Lecture 8 and 9</td>
<td>Lab 4 Cont. and Lab 5</td>
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<td>Week 5 -9/14</td>
<td>Lecture 10</td>
<td>Lab 5 Cont.</td>
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<td>Week 6 - 9/21</td>
<td>Lecture 11</td>
<td>Lab 6</td>
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<td>Week 7 - 9/28</td>
<td>Midterm Review</td>
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<td>Week 8 -10/5</td>
<td>Midterm</td>
<td>Midterm</td>
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<td>Week 9 - 10/15</td>
<td>Lecture 12</td>
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<td>Week 10 -10/19</td>
<td>Lecture 13 -OSPF</td>
<td>Lab 8</td>
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<td>Lecture 14 - IS-IS</td>
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<td>Week 11 -10/26</td>
<td>Lecture 15</td>
<td>Lab 9</td>
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<td>Route Summarization</td>
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<td>UDP &amp; TCP</td>
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<td>Week 12 -11/2</td>
<td>Lecture 16</td>
<td>Final Project</td>
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<td>Week 13 -11/9</td>
<td>Lecture 17</td>
<td>Final Project</td>
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<td>Week 14 11/16</td>
<td>Lecture 18</td>
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<td>Week 15 -11/23</td>
<td>Lecture 19 &amp; Lecture 20</td>
<td>Final Project</td>
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