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|  | **Computer & Information Technology - 352 Network Protocols and Administration** |

**Spring 2017
MWF 2:00 – 2:50
WAEC 1232**

**Instructor:** Bill Gardner, Assistant Professor
**Office:** WAEC 2005
**Email**: gardner62@marshall.edu
**Phone:** 304-696-2658
**Office Hours**: : **10:00 am – 11 am and 1:00 pm – 2:00 pm MWF, 10:00am – 12:00 pm TTh**

**Course Description**: This is a three (3) credit course. This course provides students with knowledge of network terminology, structures, topologies, protocols, the OSI model, and interfaces involving local area (LAN) and wide area networks (WAN).

**Instruction Method:**

There will be three (3) contact hours of classroom lecture and discussion per week. Coursework will include classroom lectures, and exams along with in-class discussion using real-world examples and scenarios. You are expected to take an active role in your learning. Discussions and writing assignments play significant roles in the conduct of the course.

**Course Learning Objectives**

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| **Course Student Learning Outcomes** | **How students will practice each outcome in this Course** | **How student achievement of each outcome will be assessed in this Course** |
| Students will **demonstrate** the fundamentals of network terminology and concepts. | In-class/hands-on exercises class projects, programing projects, and homework. | Home Work, Programing Exercises, Midterm Exam and Final Exam |
| Students will **demonstrate** an understanding of network protocols such as HTTP, FTP, SMTP, TCP, and UDP | In-class/hands-on exercises class projects, programing projects, and homework. | Home Work, Programing Exercises, Midterm Exam and Final Exam  |
| Students will be able to **describe** why some network protocols are less secure than others. | In-class/hands-on exercises class projects, programing projects, and homework. | Home Work, Programing Exercises, Midterm Exam and Final Exam  |
| Students will **demonstrate** use of Wireshark and other packet capture software to interpret and analyze network data. | In-class/hands-on exercises class projects, programing projects, and homework | Home Work, Programing Exercises, Midterm Exam and Final Exam  |
| Students will **demonstrate** the ability to understand the background and purpose of network applications. | In-class/hands-on exercises class projects, programing projects, and homework | Home Work, Programing Exercises, Midterm Exam and Final Exam  |
| Students will **demonstrate** an understanding of network topologies. | In-class/hands-on exercises class projects, programing projects, and homework | Home Work, Programing Exercises, Midterm Exam and Final Exam  |
| Students will **describe** the fundamentals of network administration | In-class/hands-on exercises class projects, programing projects, and homework | Home Work, Programing Exercises, Midterm Exam and Final Exam  |
| Students will **identify** hardware and software needs for a typical network  | In-class/hands-on exercises class projects, programing projects, and homework | Home Work, Programing Exercises, Midterm Exam and Final Exam  |
| Students will **differentiate** between operating system requirements, network service requirements, and operational requirements | In-class/hands-on exercises class projects, programing projects, and homework | Home Work, Programing Exercises, Midterm Exam and Final Exam  |
| Students will **examine** the importance of network operational requirements and network operational uptime | In-class/hands-on exercises class projects, programing projects, and homework | Home Work, Programing Exercises, Midterm Exam and Final Exam  |
| Students will **explain** the process and proceedure of setting up and operating a network | In-class/hands-on exercises class projects, programing projects, and homework | Home Work, Programing Exercises, Midterm Exam and Final Exam  |

**Required Textbook and Materials:**

*Computer Networking: A TopDown Approach, 6/E.* Kurose & Ross, Pearson (March 5, 2012). ISBN13:9780132856201

*Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668

# Required Software

# We will be using the Top Hat ([www.tophat.com](http://www.tophat.com/)) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message.

# You can visit the Top Hat Overview (<https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide>) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system.

# An email invitation will be sent to you by email, but if don’t receive this email, you can register by simply visiting our course website: https://app.tophat.com/e/038871

# Note: our Course Join Code is 038871

# Top Hat will require a paid subscription, and a full breakdown of all subscription options available can be found here: [www.tophat.com/pricing](http://www.tophat.com/pricing).

# Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in-app support button, or by calling 1-888-663-5491.

**Topics and Methodologies:**

The following outline delineates the tentative class schedule with topics to be addressed during the course.

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| **Week/Reading Assignment** | **Lecture Topics** |
| **1.** Chapter 1 - *Computer Networking: A TopDown Approach, 6/E.* Kurose & Ross, Pearson (March 5, 2012). ISBN13:9780132856201 | Introduction to the OSI model, History, Packet Switching, Delay, Wireshark |
| **2.** Chapter 2 - *Computer Networking: A TopDown Approach, 6/E.* Kurose & Ross, Pearson (March 5, 2012). ISBN13:9780132856201 | Application Layer, Web and HTTP |
| **3.** Chapter 2 - *Computer Networking: A TopDown Approach, 6/E.* Kurose & Ross, Pearson (March 5, 2012). ISBN13:9780132856201 | Application Layer, FTP, DNS, SMTP/POP3/IMAP |
| **4.** Chapter 3 - *Computer Networking: A TopDown Approach, 6/E.* Kurose & Ross, Pearson (March 5, 2012). ISBN13:9780132856201 | Transport Layer, Transport Layer, MUX, Socket/TCP/UDP UDP |
| **5.** Chapter 4 - *Computer Networking: A TopDown Approach, 6/E.* Kurose & Ross, Pearson (March 5, 2012). ISBN13:9780132856201 | Network Layer, Datagram, Router, P, DHCP, NAT, ICMP, Network Layer, Routing, Broadcast, Multicast |
| **6.** Chapter 5 - *Computer Networking: A TopDown Approach, 6/E.* Kurose & Ross, Pearson (March 5, 2012). ISBN13:9780132856201 | Link Layer, Errors, MAC, Addressing, Ethernet, Switches |
| **7.** Chapter 6 - *Computer Networking: A TopDown Approach, 6/E.* Kurose & Ross, Pearson (March 5, 2012). ISBN13:9780132856201 | Securing Protocols |
| **8.** Chapter 1 and 2 - *Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668  | Introduction and Overview of Network Administration |
| **9.** Chapter 3 and 4 - *Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668  | Workstations and Servers |
| **10.** Chapter 5 and 6 - *Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668  | Networks and Namespaces |
| **11.** Chapter 10, 11, 12, 13, 14 - *Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668  | Disaster Recovery and Data Integrity, and Security Policy, Ethics and Helpdesks, Customer Care  |
| **12.** Chapter 15, 16, 17, 18, 19, 20 - *Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668  | Debugging and Fixing Things Once, Change Management and Server Upgrades, Service Conversions and Maintenance Windows  |
| **13.** Chapter 21, 22 - *Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668  | Centralization and Decentralization and Service Monitoring |
| **14.** Chapter 23, 24 - *Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668  | Email Service and Print Service  |
| **15.** Chapter 25, 26 - *Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668  | Data Storage, and Backup and Restore |
| **15.** Assignment 27 - - *Practice of System and Network Administration* Thomas A. Limoncelli, Christina J. Hogan, and Strata R. Chalup, Addison Wesley, ISBN: 0321492668  | Remote Access Service |

**Reading Assignments**Students are expected to keep up with all reading assignments and come to class **prepared** to discuss the material.

**Exams:**

There are two exams: the Midterm and the Final. They cover all the course material to that particular point.

**Evaluation Method:**

Course grades will be based on a total points system. Your grade will be based on a percentage of the total points possible.

**Course Point Distribution**

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| Midterm Exam | 100 pts |
| Final Exam | 100 pts |
| Quizzes/In-Class Exercises/Homework/ Programing Assignments | 200 pts |

**Total Points Possible: 400 points**

**Example:**

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| Midterm Exam | 89 points |
| Final Exam | 87 points |
| Quizzes/In-Class Exercises/Homework | 168 points |

**Total 344 points**

**344 divided by 400 = 0.86 In the example your grade would be 86%**

**Grading Final letter grades will be based on the following scale:**

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| 90­100 | A |
| 80­89 | B |
| 70­79 | C |
| 60­69 | D |
| 0­59 | F |

**In the above example your final grade would be 86, which would be a B.**

**Grading Policy:**

Instructor reserves the right to adjust these values based on the overall class performance.

**Attendance Policy**

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| Regular attendance in this class is crucial to your success as a student. The only way to benefit from class discussions and hands-on learning activities is to be here. Being present and on time for all class meetings is expected. Period. **EXCUSED ABSENCES**1. University-sponsored academic activities (performing arts, debate and individual events, honors classes, ROTC); official athletic events; other university activities (student government).2. Student Illness or Critical Illness/Death in the Immediate Family:” Immediate Family” is defined as a spouse/life partner, child, parent, legal guardian, sibling, grandparent or grand- child. **\*Routine doctor appointments are not excused. Appointments should be scheduled around your classes.**3. Short-Term Military Obligation4. Jury Duty or Subpoena for Court Appearance5. Religious Holidays**Student’s Responsibility**· Provide appropriate documentation to Dean of Student Affairs for excused absence. Learn how the process works here:<http://www.marshall.edu/catalog/undergraduate/ug_10-11_published.pdf>· Request opportunity to complete missed work **immediately upon return to class.**· Be aware that excessive absences—whether excused or unexcused—may affect your ability to earn a passing grade.· Regardless of the nature of the excused absence, you are responsible for completing all coursework **prior to the end of the semester**. **Make-up work for Excused Absences** Because this course is an interactive class, students who miss class due to University-excused activities will be provided with an alternative assignment that connects to the activities in the missed class session.**UNEXCUSED ABSENCES**· If you miss two classes, I will issue a warning.· If you miss a third class:· You will receive an automatic one letter grade deduction in the course.· We will conference to discuss your standing and develop a plan of improvement. If you meet its criteria, you may have the chance to earn back the letter grade deduction.· If you miss a fourth class, the previous letter grade deduction stands, regardless of improvement plan results.· Subsequent missed classes will result in an additional letter grade deduction for each absence.  |

**Academic Dishonesty Policy:**

Academic Dishonesty is defined as any act of a dishonorable nature which gives the student engaged in it an unfair advantage over others engaged in the same or similar course of study and which, if known to the classroom instructor in such course of study, would be prohibited. Academic Dishonesty will not be tolerated as these actions are fundamentally opposed to "assuring the integrity of the curriculum through the maintenance of rigorous standards and high expectations for student learning and performance" as described in Marshall University's Statement of Philosophy.

In this course, **STUDENTS ARE NOT TO “COPY & PASTE” MATERIAL FROM A SOURCE INTO ANY ASSIGNMENT UNLESS SPECIFICALLY AUTHORIZED BY THE INSTRUCTOR.**

If you are found cheating on projects or plagiarizing answers from the Internet or other sources (among other things), there will be no second chance. Your penalty is that you will receive a failing grade for the course. In those cases in which the offense is particularly flagrant or where there are other aggravating circumstances, additional, non-academic, sanctions may be pursued through the Office of Judicial Affairs. Notice of an act of academic dishonesty will be reported to the Department Chair, Dean of the College of Science, and to the Office of Academic Affairs. Please refer to the Marshall University Undergraduate Catalog for a full definition of academic dishonesty.

**Class Grade Appeals:**

Should you wish to appeal a grade, test question, etc, you MUST follow this procedure. You should send an email to me. The title of the email must read “GRADE APPEAL – Assignment Name” (i.e. Storage Quiz, Mid-Term, etc). The body of the email must include the question, question number, your answer, and why you think you deserve credit. For tests and quizzes in Blackboard, this should be done immediately after completion, before you leave class. You can copy and paste this information to make things simple. I will get back to you as soon as possible.

**Electronic Submission Format:**

File Names: All electronic submissions must follow this file naming convention: ist362\_Last Name\_First Initial\_Assignment Name.doc Example: ist362\_gardner\_b\_researchpaper.doc

**Communications**

Private E-mail will be used to make any general announcements, last minute changes, etc. It is ***mandatory*** that you monitor your email messages at least once a day. ***PLEASE ONLY USE MY MARSHALL EMAIL ADDRESS FOR CORRESPONDENCE:*** gardner62@marshall.edu. Messages left on Blackboard will result in a delayed response.

All students are responsible for knowing the University Computing Services’ Acceptable Use Policy available at http://www.marshall.edu/ucs/CS/accptuse.asp

**Cell Phones in the Classroom:**

Please set your cell phone ringer to ***"Vibrate Only"*** mode (or turn it off) before you enter the classroom.

**Computer Use in the Classroom:** Please ***do not*** use the computers in the classroom to surf social networks or other non-course related sites.

**Professionalism:**

In this course you will be treated as professionals and will be expected to behave and perform as such. ***As professionals, you will be expected to attend class, be on time, complete all of your assignments, meet deadlines, ask questions when you don’t understand, and participate. Your classroom language and demeanor should also be professional.***

**Disclaimer**

The instructor reserves that right to modify the course schedule and evaluation system should it become necessary for the effective conduct of the course.

**Policy for Students with Disabilities**

Marshall University is committed to equal opportunity in education for all students, including those with physical, learning and psychological disabilities. University policy states that it is the responsibility of students with disabilities to contact the Office of Disabled Student Services (DSS) in Prichard Hall 117, phone 304 696-2271 to provide documentation of their disability.

Following this, the DSS Coordinator will send a letter to each of the student’s instructors outlining the academic accommodation he/she will need to ensure equality in classroom experiences, outside assignment, testing and grading. The instructor and student will meet to discuss how the accommodation(s) requested will be provided. For more information, please visit http://www.marshall.edu/disabled or contact Disabled Student Services Office at Prichard Hall 11, phone 304­696­2271.

**University Policies:**

By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy be going to www.marshall.edu/academic-affairs and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page\_id=802

Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

**Dead Week**

(SR-90-91-(95) 247 ASCR) The last five class days of the fall and spring semesters shall be designated as DEAD WEEK for undergraduate students. Examinations that are designated as 15% or more of the final course grade may not be given during this period. Major papers and/or projects defined as 15% or more of the final course grade may be assigned during this period only if stipulated in the official course syllabus which is to be distributed at the beginning of the semester. Night classes, laboratories, freshmen English composition courses, and any classes meeting once a week shall be exempt from the requirements. New material and make­up examinations may be introduced or conducted during the DEAD WEEK..

**Get Involved:**

There are tremendous opportunities to learn and network beyond your coursework. The student chapter of AIDE (Appalachian Institute of Digital Evidence), internships, networking with professionals, and research are just some of the possibilities. Opportunities for extra credit exist for students who get involved in learning activities including conference, student groups, etc. See me for details.

**Social Networking:**

Follow me on: Facebook: https://www.facebook.com/oncee Twitter: @oncee Linkedin: www.linkedin.com/in/304blogs/

**Other Twitter accounts to follow:**

Twitter:: @MUDigForensics and @AppyIDE

**Other websites of interest:**

Appalachian Institute of Digital Evidence - http://www.appyide.org Integrated Science and Technology - http://www.marshall.edu/ISAT/