



The Department of Applied Information Technology

The Volgenau School of Information Technology & Engineering
George Mason University
4400 University Drive
Fairfax, VA 22030-4444

IT 445 Advanced Networking Principles II Spring 2009

Common Syllabus

Revised 8/26/08

This syllabus contains information common to all sections of IT 445 for the Spring 2009 semester. For each section, a customized syllabus with information specific to that section will be made available to registered students via [the Blackboard Learning System](#).

Logistics

[Section 001](#) [Louis R. D'Alessandro](#) <http://princewilliam.gmu.edu/> Thursday 1:30 pm to 4:10 pm

Course Description

IT Information Technology
IT445 Advanced Networking Principles II

IT101, IT108, IT212, Math108, IT341 or permission of the instructor

This course focuses on Layer 2 and 3 of the OSI model and WAN technologies. Frame Relay and ISDN, complex router configurations of Variable Length Subnet Masking (VLSM), Classless Inter-Domain Routing (CIDR), Network Address Translation (NAT), Dynamic Host Configuration Protocol (DHCP), and study of Network Management Systems available for Data Communications Networks. Layer 2 involves Ethernet-switching components, including detailed hands-on configuration covering all aspects of switches using the command-line interface method.

From <http://www.gmu.edu/catalog/courses/it.html>

Prerequisites The prerequisite for this course IT101, IT108, IT212, Math108, IT341 or permission of the instructor (or an approved equivalent course). A grade of "C" or better **must** be achieved in the prerequisite course **before** a student is qualified to take this course. The prerequisite course must be completed prior to, not concurrently with, this course.

This requirement will be **strictly enforced**. Any student who does not meet the prerequisite requirement will be dropped from the course by the Instructor at the start of the semester and the student will be responsible for any consequences of being dropped.

References

Lecture Textbooks:

Lewis, W.; LAN Switching and Wireless, CCNA Exploration Companion Guide, Cisco Press, ISBN 13-978-1-58713-207-0

Vachon, B & Graziani, R.; Accessing the WAN, CCNA Exploration Companion Guide, Cisco Press, ISBN 13-978-1-158713-205-6

Lab Textbooks:

Johnson, A; LAN Switching and Wireless, CCNA Exploration Labs and Study Guide, Cisco Press, ISBN 13-978-1-58713-202-5

Rullan, J; Accessing the WAN, CCNA Exploration Labs and Study Guide, Cisco Press, ISBN 13-978-1-58713-201-8

Instruction for Purchasing at a Discount Rate:

Can be obtained from www.ciscopress.com

Here are the instructions: Follow these 4 steps once then after that just login to ciscopress.com to get this discount from now onward.

To take advantage of the special offer, simply apply your school's Sales Rep membership code and follow the steps below:

The membership code for the AIT dept at GMU is: **EDU-1FB**

Go to www.ciscopress.com/ph (registration required via this unique URL)

1. Click Register or Log In
2. Enter your e-mail address on the Login or Become a Member page
3. Choose "Apply Membership Code" on the My Account page and enter your code (again that is **EDU-1CB** for this dept at GMU)

Then just log in as a Member each time you visit ciscopress.com to automatically receive your special pricing and save on every purchase.

Faculty and Staff

Instructors:

Louis R. D'Alessandro

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Office: Room 102D, Bull Run Hall

Office Hours: Thursday (8:00am-9:00am and 4:30pm – 6pm) or by appointment

Teaching Assistant:

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Administrative support:

[Fairfax campus](#)

Stephanie Katavolos

[Science & Technology II Building](#), Room 17

Phone: 703-993-3565

[Prince William campus](#)

Cindy Woodfork

[Bull Run Hall](#), Suite 102

Phone: 703-993-8461

Grading

Grades will be awarded in accordance with the GMU Grading System for undergraduate students. See <http://www.gmu.edu/catalog/apolicies/> under [Grading System](#) for more information.

The grading scale for this course is:

97 – 100%	A+	Passing
93 – 96%	A	Passing
90 – 92%	A-	Passing
87 – 89%	B+	Passing
83 – 86%	B	Passing
80 – 82%	B-	Passing
77 – 79%	C+	Passing
73 – 76%	C	Passing
70 – 72%	C-	<i>Passing*</i>
60 – 69%	D	<i>Passing*</i>
0 – 59%	F	Failing

* Grades of "C-" and "D" are considered passing grades for undergraduate courses. However, a minimum grade of "C" is required in the BSIT program for any course that is a prerequisite for one or more other courses. This course is a prerequisite for several courses in BSIT Concentrations – see <http://www.gmu.edu/catalog/courses/it.html> for more information on those courses.

Raw scores may be adjusted by the Instructor to calculate final grades.

Final grades will be determined based on the following components:

Homework -	20%
Lab Work -	50%
Midterm Exam -	15%
Final Exam -	15%

Homework

Homework will be assigned. Each homework assignment is to be prepared and submitted as specified by the Instructor. Late homework may not be accepted – if accepted, a penalty may be applied. Acceptance of late homework and/or application of penalties will be at the sole discretion of the Instructor.

In-class exercises

Exercises (including quizzes and other activities) will be conducted in selected class sessions throughout the semester. Exercises will **not** be announced in advance. Any student who misses an exercise due to an unexcused absence will receive zero (0) for that exercise.

Mid-term exam

The mid-term exam will be conducted during the scheduled class session in Week 6 and will be based on topics addressed in Lectures 1-5. The mid-term exam will be “closed book” – no reference materials other than those provided with the exam paper will be permitted. Mid-term exams will be returned to students once all mid-term exams for all sections have been graded.

Final exam

The final exam will be held during the scheduled final exam session (see <http://registrar.gmu.edu/calendars/Spring09exams.pdf>) and will be based on topics addressed throughout the entire course. The final exam will be “closed book” – no reference materials other than those provided with the exam paper will be permitted. Final exams will be retained by the [Department of Applied Information Technology](#) and will not be returned to students.

Final grades will be posted to [PatriotWeb](#), which is the only vehicle for students to obtain those grades. A student with a "hold" on his/her PatriotWeb account will be unable to access final grades until the hold has been removed by the Registrar.

Schedule

Week	Content	Reading, Assignments & Labs
1 1/22/09	Chapter 1 (LAN Switching & Wireless) <ul style="list-style-type: none"> LAN Design 	<ul style="list-style-type: none"> Lab Session 1 (Refer to Lab Folder in gmu.blackboard.com)
2 1/29/09	Chapter 2 (LAN Switching & Wireless) <ul style="list-style-type: none"> Basic Switching Concepts & Configuration 	<ul style="list-style-type: none"> Home Assignment 1 (Refer to Assignments Folder in gmu.blackboard.com) Lab Session 2 (Refer to Lab Folder in gmu.blackboard.com)
3 2/5/09	Chapter 3 (LAN Switching & Wireless) <ul style="list-style-type: none"> VLANs 	<ul style="list-style-type: none"> Home Assignment 1 Due Lab Session 3 (Refer to Lab Folder in gmu.blackboard.com)
4 2/12/09	<ul style="list-style-type: none"> No Lecture Only Lab 	<ul style="list-style-type: none"> Home Assignment 2 (Refer to Assignments Folder in gmu.blackboard.com) Lab Session 4 (Refer to Lab Folder in gmu.blackboard.com) VLANs
5 2/19/09	Chapter 4 (LAN Switching & Wireless) <ul style="list-style-type: none"> VTP Chapter 5 (LAN Switching & Wireless) <ul style="list-style-type: none"> STP (Partial) 	<ul style="list-style-type: none"> Home Assignment 2 Due Lab Session 5 (Refer to Lab Folder in gmu.blackboard.com) VTP
6 2/26/09	Chapter 5 (LAN Switching & Wireless) <ul style="list-style-type: none"> STP (Finish) Chapter 6 (LAN Switching & Wireless) <ul style="list-style-type: none"> Inter VLAN Routing Review for Midterm Exam 	<ul style="list-style-type: none"> Home Assignment 3 (Refer to Assignments Folder in gmu.blackboard.com) Lab Session 6 (Refer to Lab Folder in gmu.blackboard.com) STP
7 3/5/09	Midterm Exam 3/5/09	<ul style="list-style-type: none"> Home Assignment 3 Due Lab Session 7 (Refer to Lab Folder in gmu.blackboard.com) VLA N Routing
3/9-15/09	Spring Break	
8 3/19/09	Chapter 1 (Accessing the WAN) <ul style="list-style-type: none"> Introduction to WANs 	<ul style="list-style-type: none"> Lab Session 8 (Refer to Lab Folder in gmu.blackboard.com) PPP
9 3/26/09	Chapter 2 (Accessing the WAN) <ul style="list-style-type: none"> PPP 	<ul style="list-style-type: none"> Home Assignment 4 (Refer to Assignments Folder in gmu.blackboard.com) Lab Session 8 (Refer to Lab Folder in gmu.blackboard.com) Frame Relay
10 4/2/09	Chapter 3 (Accessing the WAN) <ul style="list-style-type: none"> Frame Relay 	<ul style="list-style-type: none"> Home Assignment 4 Due Lab Session 10 (Refer to Lab Folder in gmu.blackboard.com) Security
11 4/9/09	Chapter 4 (Accessing the WAN) <ul style="list-style-type: none"> Network Security 	<ul style="list-style-type: none"> Home Assignment 5 (Refer to Assignments Folder in gmu.blackboard.com)

		<ul style="list-style-type: none"> • Lab Session 11 (Refer to Lab Folder in gmu.blackboard.com) Basic ACL
12 4/16/09	Chapter 5 (CCNA 4) <ul style="list-style-type: none"> • ACLs 	<ul style="list-style-type: none"> • Home Assignment 5 Due • Lab Session 12 (Refer to Lab Folder in gmu.blackboard.com) DHCP & NAT
13 4/23/09	Chapter 7 (Accessing the WAN) <ul style="list-style-type: none"> • IP Addressing Services 	<ul style="list-style-type: none"> • Home Assignment 6 (Refer Home Assignment 1 (Refer to Assignments Folder in (gmu.blackboard.com)) • VoIP & Make up Lab Session
14 4/30/09	<ul style="list-style-type: none"> • Review for Final Exam 	<ul style="list-style-type: none"> • Home Assignment 6 Due • Make up Lab Session
15 5/7/09	Final Exam 5/7/09	

The reading assignment shown for each lecture is to be completed **prior to** that lecture.

This schedule is subject to revision before and throughout the course.

Registered students should see [the Blackboard Learning System](#) for the latest class schedule.

Important Dates

Last day to add classes	February 3
Last day to drop with no tuition penalty	February 3
Last day to drop	February 20

From <http://registrar.gmu.edu/calendars/Spring09calendar.pdf>.

See that Web page for more information.

Religious Holidays

A list of religious holidays is available on the [University Life Calendar page](#). Any student whose religious observance conflicts with a scheduled course activity must contact the Instructor **at least 2 weeks in advance** of the conflict date in order to make alternative arrangements.

Attendance Policy

Students are expected to attend each class, to complete any required preparatory work (including assigned reading – see **Schedule** above) and to participate actively in lectures, discussions and exercises. As members of the academic community, all students are expected to contribute regardless of their proficiency with the subject matter.

Students are expected to make prior arrangements with Instructor if they know in advance that they will miss any class and to consult with the Instructor as soon as possible if they miss any class without prior notice. Any student who expects to miss more than one class session is strongly advised to drop the course and take it in a later semester when he/she can attend every class.

Departmental policy requires students to take exams at the scheduled time and place, unless there are truly compelling circumstances supported by appropriate documentation. Except in such circumstances, failure to attend a scheduled exam will result in a score of zero (0) for that exam, in accordance with [Mason policy on final exams](#). Students should not make travel plans or other discretionary arrangements that conflict with scheduled classes and/or exams. If the University is closed due to weather or other unforeseen conditions, final exams may be rescheduled – students are strongly advised not to make plans that would prevent them from attending exams that may be rescheduled during the entire [exam period](#).

Classroom conduct

Students are expected to conduct themselves in a manner that is conducive to learning, as directed by the Instructor. Any student who negatively impacts the opportunity for other students to learn will be warned – if disruptive behavior continues, the student will be asked to leave the classroom.

Electronic devices are potential distractions in the classroom environment. Cell phones, pagers and other handheld devices must be turned off or set to "silent" mode and not used while class is in session. Laptop computers and similar devices may be used only if such use is directly related to the classroom activity in progress – for some activities the Instructor may require that such devices not be used in order to maximize student engagement.

Communications

Registered students will be given access to a section of [the Blackboard Learning System](#) for this course. Blackboard will be used as the primary mechanism (outside of lectures) to disseminate course information, including announcements, lecture slides, homework and other assignments, and scores for homework and exams.

Communication with the Instructor on issues relating to the individual student should be conducted using Blackboard Mail, GMU email, via telephone, or in person - **not** in the public forums on Blackboard. Blackboard Mail is the preferred method – for urgent messages, you should also attempt to contact the Instructor via telephone. Federal privacy law and GMU policy require that any communication with a student related in any way to a student's status be conducted using secure GMU systems – if you use email to communicate with the Instructor you **MUST** send messages from your GMU email account.

Lecture slides are complements to the lecture process, not substitutes for it - access to lecture slides will be provided in Blackboard as a courtesy to students provided acceptable attendance is maintained.

All course materials (lecture slides, assignment specifications, *etc*) are published on Blackboard in Adobe® Portable Document Format (PDF). This allows users of most computing platforms to view and print these files. Microsoft® Word (or a compatible word processing application) is required for preparing assignments – it is available on computers in the Mason open labs.

Privacy

Instructors respect and protect the privacy of information related to individual students.

As described above, issues relating to an individual student will be discussed via email, telephone or in person. Instructors will not discuss issues relating to an individual student with other students (or anyone without a need to know) without prior permission of the student.

Assessable work other than final exams will be returned to individual students directly by the Instructor (or by a faculty or staff member or a Teaching Assistant designated by the Instructor, or via another secure method). Under no circumstances will a student's graded work be returned to another student.

Faculty and staff will take care to protect the privacy of each student's scores and grades.

Disability Accommodations

[The Office of Disability Services \(ODS\)](#) works with disabled students to arrange for appropriate accommodations to ensure equal access to university services. Any student with a disability of any kind is strongly encouraged to register with ODS as soon as possible and take advantage of the services offered.

Accommodations for disabled students **must** be made in advance – ODS cannot assist students retroactively, and at least one week's notice is required for special accommodations related to exams. Any student who needs accommodation should contact the Instructor during the first week of the semester so the sufficient time is allowed to make arrangements.

Honor Code

All members of the Mason community are expected to uphold the principles of scholarly ethics. Similarly, graduating students are bound by the ethical requirements of the professional communities they join. The ethics requirements for some of the communities relevant to Applied IT graduates are available via the following links:

- [ACM Code of Ethics and Professional Conduct](#)
- [IEEE Code of Ethics](#)
- [EC-Council Code of Ethics](#)

On admission to Mason, students agree to comply with the requirements of the [GMU Honor System and Code](#)¹. The Honor Code will be strictly enforced in this course. Honor Code cases are heard by a panel consisting of students – students who meet the requirements are encouraged to nominate themselves to serve on the Honor Committee.

Any use of the words or ideas of another person(s), without explicit attribution that clearly identifies the material used and its source in an appropriate manner, is **plagiarism** and will not be tolerated. Dean Griffiths has mandated a "zero tolerance" policy for plagiarism within [The Volgenau School](#). The Instructor reserves the right to use manual and/or automated means (including such services as [Turnitin.com](#)) to detect plagiarism in any work submitted by students for this course, and to direct Teaching Assistants and/or other faculty and/or staff members to do likewise in support of this course.

For this course, the following requirements are specified:

- All assessable work is to be prepared by the individual student, unless the Instructor explicitly directs otherwise.
- All work must be newly created by the individual student for this course for this semester. Any usage of work developed for another course, or for this course in a prior semester, is strictly prohibited without prior approval from the instructor.

Students may seek assistance with assigned work (and are encouraged to do so if they feel the need), **provided**:

- The directions for the assigned work do not prohibit such assistance.
- Such assistance is acknowledged in the submitted work, clearly identifying the person(s) giving assistance and the nature of the assistance given.
- Any work to be submitted is prepared entirely and exclusively by the student submitting it. Students are expressly prohibited from sharing any assessable work for this course in any manner with other students (except students assigned as Teaching Assistants or Undergraduate Peer Mentors to this course and the student's section), unless all students involved have had their work graded and returned by the Instructor, or the Instructor has explicitly approved such sharing.

¹ Available at www.gmu.edu/catalog/apolicies and related GMU Web pages.