

# INF 203: Introduction to Network Systems (3 credit hours)

Spring 2015 8W1, Class number 9870

## Instructor: Norman Gervais

Office location: BA 313 or virtually via Google Hangout, inf.gervais@gmail.com

Office hours: Mondays 11:30-1:00 and Wednesdays 11:30-12:15 or By Appointment

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Private Communications: For *private* communication with me, please use my UAlbany email address. If you do not hear from me within two business days, especially if you are not using Albany email and it may have went to my spam folder, please make me aware of the issue in the "ask a question" discussion in Blackboard.

Anything other than a private communication should be posted in the appropriate course areas (i.e. ask a question).

Logon schedule: Once a day before 9:00pm mon-fri, unless otherwise specified

## Course Information

Meeting Location: Online course offered completely through Blackboard Learning System

### Course description from *Undergraduate Bulletin*:

This course provides an introduction to computer networking and computer systems. The course covers the fundamentals of networked computing systems with an emphasis placed on the basics of network protocols and how they operate at all layers of the networking models. The course also introduces students to personal computer internal system components, storage systems, peripheral devices, and operating systems from an introductory computer architecture perspective. Prerequisite(s): I CSI 105 or 201.

### Prerequisites

The prerequisite course for INF 203 is I CSI 105 or I CSI 201. This course will build on several of the primary concepts from these courses and add several more.

### Course Goals

By the end of the semester, you should be able to:

- Identify computer internals and how they impact system performance.
- Distinguish the different layers of software and hardware.
- Recognize the fundamental capabilities of different classes of computers.
- Understand how computers interoperate.

### Readings

Required readings

*Systems Architecture*, Burd, Stephen D., 2011, 6<sup>th</sup> Edition, Course Technology: \$54.49 - 180.00. ISBN 13: 978-0-538-47533-4.

Supplemental readings

Will be distributed via Blackboard as appropriate

### Additional Materials

Students will require access to a computer, a modern generation browser, and the Internet.

## Course Approach

I believe (and research shows) that students learn best from interacting with texts and with other learners, engaging in challenging tasks, being held accountable for their work, and receiving frequent feedback on their progress. As a result, this course was designed with these elements in mind.

## Course Learning Activities

This course consists of a practice ice breaker module (2 weeks in length), four regular modules (each 10 days in length), and a mini module (9 days in length). Each regular module will start off with a list of readings and then there will be a **quiz** based on the readings. Also based on these readings, there will be one in depth **assignment**. In addition, you will also need to participate in several **mini activities or discussions**. The mini activities will consist of small tasks that you will need to submit. The discussions will consist of creating *either an original post or responding* to at least one other person's post with substantive feedback. The mini module will consist of one chapter, a discussion and short quiz based on that chapter, and a **final project** which consists of a proposal, presentation, and paper.

## Course Policies

### Make-up Policy

There are generally no make-up opportunities for missed assignments except in extenuating circumstances. Instead of asking to make up missed work, please see the course 'safety valves' described below.

Since there will be occasions in your life when missing a class meeting is simply unavoidable, this course has a no-fault safety valve.

### Safety valve 1

Your lowest discussion or mini activity score will be dropped. So, if you must miss a discussion or mini activity for any reason, it will be possible to drop the zero you would automatically receive for missing the discussion or mini activity. Be careful not to waste your drop on frivolous things early in the semester, since you may need it if you catch a cold or need to leave town for a day later in the semester. If you do not use your safety valve for a missed discussion, you will be able to use your safety valve to improve your grade, by dropping your lowest discussion or mini activity score.

Plan carefully for classes that you know you will need to miss. Work, religious practice, sports team travel, military duty, club activities, fraternity/sorority obligations, family responsibilities, assignments for other courses, and even brief illnesses, etc.—these are your responsibility to manage by using your safety valve. If you need to be out of class for any of these, make sure you have conserved your droppable grade to cover the class you need to miss.

### Safety valve 2

There will be four individual assignments. The single lowest grade of these four assignments will be dropped.

### *Safety valve 3*

If you become seriously ill during the semester, or become derailed by unforeseeable life problems, and have to miss so many assignments that it will ruin your grade, schedule a meeting with me in order to make arrangements for you to drop the course to save your grade point average. Don't wait until it's too late to see me when you get in trouble.

### **Late homework**

Homework is due on the due date at the specified time, in class or submitted through Blackboard, depending on the assignment. Late assignments will be accepted up to 24 hours late, but at the cost of a full letter grade for missing the deadline. If the assignment is submitted over 24 hours late, an automatic 0 will be assigned. Discussions, mini activities, quizzes, and the project and its associated content will not be accepted late.

### **Extra Credit**

There may be extra credit work. All students will be expected to complete, and be graded on, the same set of assignments. Details to follow. All extra-credit opportunities are capped at no more than 5 points on your overall grade.

### **Withdrawal from the course**

The drop date for the Spring 2015 8w1 semester is **February 20** for undergraduate students. That is the last date you can drop a course and receive a 'W'. It is your responsibility to take action by this date if you wish to drop the course. In particular, grades of "incomplete" will not be awarded to students because they missed the drop deadline.

### **Incompletes**

As per the Undergraduate Bulletin, the grade of Incomplete (I) will be given "only when the student has nearly completed the course requirements but because of circumstances beyond the student's control the work is not completed." A student granted an incomplete will make an agreement specifying what material must be made up, and a date for its completion. The incomplete will be converted to a normal grade on the agreed upon completion date based upon whatever material is submitted by that time.

*Important:* Incompletes will not be given to students who have not fulfilled their classwork obligations, and who, at the end of the semester, are looking to avoid failing the course. This is asking for special treatment.

### **Academic Integrity**

*It is every student's responsibility to become familiar with the standards of academic integrity at the University. Claims of ignorance, of unintentional error, or of academic or personal pressures are not sufficient reasons for violations of academic integrity. See [http://www.albany.edu/undergraduate\\_bulletin/regulations.html](http://www.albany.edu/undergraduate_bulletin/regulations.html)*

Course work and examinations are considered individual exercises. Copying the work of others is a violation of university rules on academic integrity. Individual course work is also key to your being prepared and performing well on tests and exams. Forming study groups and discussing assignments and techniques in general terms is encouraged, but the final work must be your own work. For example, two or more people may not create an

assignment together and submit it for credit. If you have specific questions about this or any other policy, please ask.

The following is a list of the types of behaviors that are defined as examples of academic dishonesty and are therefore unacceptable. Attempts to commit such acts also fall under the term academic dishonesty and are subject to penalty. No set of guidelines can, of course, define all possible types or degrees of academic dishonesty; thus, the following descriptions should be understood as examples of infractions rather than an exhaustive list.

- Plagiarism
- Allowing other students to see or copy your assignments or exams
- Examining or copying another student's assignments or exams
- Lying to the professor about issues of academic integrity
- Submitting the same work for multiple assignments/classes without prior consent from the instructor(s)
- Getting answers or help from people, or other sources (e.g. research papers, web sites) without acknowledging them.
- Forgery
- Sabotage
- Unauthorized Collaboration (just check first!)
- Falsification
- Bribery
- Theft, Damage, or Misuse of Library or Computer Resources

Any incident of academic dishonesty in this course, no matter how "minor" will result in:

1. No credit for the affected assignment.
2. A written report will be sent to the appropriate University authorities (e.g. the Dean of Undergraduate Studies)  
And may result in:
3. One of -
  - A final mark reduction by *at least* one-half letter grade (e.g. B → B-, C- → D+),
  - A Failing mark (E) in the course, and referral of the matter to the University Judicial System for disposition.

Policies from Undergraduate Bulletin:

[http://www.albany.edu/undergraduate\\_bulletin/regulations.html](http://www.albany.edu/undergraduate_bulletin/regulations.html)

### **Responsible Use of Information Technology**

Students are required to read the University at Albany Policy for the Responsible Use of Information Technology available at the ITS Web Site:

<https://wiki.albany.edu/display/public/askit/Responsible+Use+of+Information+Technology+Policy>

### **My Expectations**

This course is set at a very fast pace that is not self-paced. You are expected to keep up with the readings and work, as it will be very difficult to catch up if you fall behind. Although all interactions between you and other students take place online, this is not a

social media site or instant message board between you and your friends. I expect all posts to use proper English, be in complete sentences, and be appropriate for a classroom setting. For every credit hour that a course meets, students should expect to work 3 additional hours outside of class every week (3 x 3= 9). For a semester long three-credit course you should expect to work 9 hours outside of class every week. Since this course is fit into a compressed schedule, the pace is accelerated and you should expect to spend a significant more amount of time per week on this course than you would a semester long course. Manage your time effectively to complete readings, assignments, quizzes, discussions, mini activities, and projects.

In addition, I expect for you all to help each other through this course. If you have any questions, please post them to the “ask a question” location before emailing me directly. I will expect that your fellow students will help to answer your question before I do, and that you will do the same for them. If you do decide you want to email me for specific help, make sure to include a specific question.

Lastly, I expect that you regularly check your email, the "ask a question" discussion, and the class announcements. If I send you an email, I expect to hear back in a relatively short period of time, and you can expect the same from me.

## Available Support Services

### Reasonable accommodation

Reasonable accommodation will be provided for students with documented physical, sensory, cognitive, learning and psychiatric disorders. If you believe you have a disability requiring accommodation in this class, please notify the Director of Disability Resource Center (Campus Center 137, 442-5490). That office will provide the course instructor with verification of your disability, and will recommend appropriate accommodations. In general, it is the student’s responsibility to contact the instructor at least one week before the relevant assignment to make arrangements.

## Grading

The grade breakdown for the course is:

- Individual Assignments (30%): Each regular module will have an individual assignment associated with it. These are not quick and easy tasks, so plan accordingly.
- Final Project (20%): Referring to topics covered in the course and the course textbook, further investigate a systems architecture technology that you are interested in. After investigating the technology, you will be required to submit a project proposal, write a technical paper, and present your findings to the class. In depth details of the project will be provided later in the semester.
- Module Quizzes (30%): These quizzes will be based solely on the assigned reading. They will be difficult and require a high degree of critical thinking, so do not expect every question to have an answer that is explicitly said in the reading. You are expected to

complete the reading before the quiz, as you will have only two minutes per question (ranging from 10-40 minutes total per quiz) to complete each quiz and therefore will not have time to look up answers.

- Discussions and mini activities (20%): These will be graded on quality rather than a quantity basis. For each module, there will be one to several discussions and mini activities. For the discussions, you should make either one original post or create a response post that should be about a paragraph in length for each assigned discussion. These discussions should be based on the specified chapter which the discussion question or topic originated from. The original post needs to put forth an original thought based on the reading and activities. These "thoughts" may be (depending on the assignment) based on, for example: life experience, additional current events or information found on the web, synthesis of the text, or a reflection that draws this content together with a previous module. The response post should be a response to one other person's post that adds insight to their post. The response could be relating what they said to a current event, answering any questions that they may have about possible implementations of the idea, or even constructive evidence that refutes their claim. A simple "good post" is not an acceptable response. For the mini activities, you need to adequately complete the task or answer the question(s) and submit them on Blackboard. Unless otherwise specified, the length of these should be approximately 1 paragraph.

**A-E graded:**

93 – 100% A	77 – 79% C+	60 – 62% D-
90 – 92% A-	73 – 76% C	0 – 59% E
87 – 89% B+	70 – 72% C-	
83 – 86% B	67 – 69% D+	
80 – 82% B-	63 – 66% D	

## Course Outline and Schedule

The following schedule of lecture topics and reading assignments is preliminary and may be changed as the semester progresses. The final schedule and specific homework and lab assignments and materials will be provided in Blackboard. Students are expected to have read the listed material before it is covered in class.

Dates	Major Topics	Readings Due	Assignments
Jan 7- Jan 20	<ul style="list-style-type: none"> <li>• Course introduction</li> <li>• Getting familiar with Blackboard</li> </ul>	Syllabus	Practice Quiz, Discussion, and Homework
Jan 21- Jan 30	<ul style="list-style-type: none"> <li>• IS design phases</li> <li>• Information resources</li> <li>• Careers</li> </ul>	Ch 1	Quiz, Discussions/mini assignment, and Homework 1
	<ul style="list-style-type: none"> <li>• Development and capabilities of the computer</li> </ul>	Ch 2	
Jan 31- Feb 9	<ul style="list-style-type: none"> <li>• Data representation</li> </ul>	Ch 3	Quiz, Discussions/mini assignment, and Homework 2
	<ul style="list-style-type: none"> <li>• The CPU</li> </ul>	Ch 4	
	<ul style="list-style-type: none"> <li>• Primary vs secondary storage</li> <li>• Choosing storage</li> </ul>	Ch 5	
	<ul style="list-style-type: none"> <li>• Input/output technology</li> </ul>	Ch 7	
Feb 10- Feb 19	<ul style="list-style-type: none"> <li>• Applications Development</li> </ul>	Ch 10	Quiz, Discussions/mini assignment, and Homework 3
	<ul style="list-style-type: none"> <li>• Operating systems</li> </ul>	Ch 11	
	<ul style="list-style-type: none"> <li>• File systems and secondary storage</li> </ul>	Ch 12	
Feb 20- Mar 1	<ul style="list-style-type: none"> <li>• Data and network communication technology</li> </ul>	Ch 8	Quiz, Discussions/mini assignment, and Homework 4
	<ul style="list-style-type: none"> <li>• Computer networks</li> <li>• The OSI layers</li> </ul>	Ch 9	
	<ul style="list-style-type: none"> <li>• Internet and distributed applications</li> </ul>	Ch 13	
Mar 2 – Mar 10	<ul style="list-style-type: none"> <li>• Systems administration</li> </ul>	Ch 14	Quiz, Discussion, and Final Project
	<ul style="list-style-type: none"> <li>• Final project</li> </ul>		