



# Bethesda University

730 North Euclid Street, Anaheim, California 92801 Tel: (714)517-1945, Fax: (714)683-1440

## IT 261 An Introduction to Information Security Fall 2015

Professor Jason Pruitt			
Class Hour:	Thursday 9:30 AM -12:00 PM	Class Room:	3rd Floor Computer Lab
Office:	2nd Floor/Athletic Office	Phone:	317.471.9219
Office Hours/ Consultation: By Appointment	M-TH	E-mail:	Jpruitt@buc.edu
TA: TBA (To Be Arranged)		Credit Unit:	3

### A. Mission Statement

Bethesda University is a Christ-centered community of higher education preparing men and women with professional competence, academic excellence and spiritual integrity to be servant leaders in the Church, the Community and Global Society. To fulfill its mission,

#### **Bethesda University is committed to the following goals:**

1. Provide instruction for personal and professional development within a Pentecostal Evangelical environment founded on the authority of the Bible.
2. Develop an integrative spiritual life which encourages students in the development of spiritual disciplines and leads to a life based on biblical morals and ethics in every area of their life.
3. Enable students to develop the knowledge, professional skills and attitudes appropriate to their professions.
4. Prepare students to serve and lead in all areas of their lives and society.
5. Create in students an appreciation and desire for lifelong education and development.

### B. Course's Academic Level and Place in Curriculum:

This is one of the Information Technology courses for all I.T. Undergraduate Students. This must be taken before graduation.

### C. Course Description

This course is intended to help students gain fundamental and comprehensive understanding of information security. We will focus on an overview of major information security issues, technologies, and approaches. Students who successfully complete this course will have a concept and knowledge of security properties, concerns, policies, models, cryptography, PKI, firewalls, security evaluations and real-



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life security cases. Students will also have hands-on experience in selected information security technologies through lab sessions.

## D. Course Objectives & Student Outcomes

1. To provide an understanding of principal concepts, major issues, technologies, and basic approaches in information security.
2. To provide concept---level hands---on experience in specific topic area.
3. To provide the ability to examine and analyze real---life security cases.

### D-1. Information Technology Outcomes:

Upon completion of this program students will:

1. Demonstrate professional knowledge and skills in information technology with Christian values.
2. Demonstrate knowledge of databases and operating systems.
3. Articulate comprehensive understanding of web language and programming.
4. Demonstrate financial and marketing knowledge essential to e-commerce.
5. Demonstrate the essential computer engineering skills necessary to function in telecommunication engineering.
6. Demonstrate the ability to effectively communicate.
7. Be able to articulate Christian values in all aspects of e-commerce dealings.

Expected Student Outcomes	
Spiritually	Demonstrate a general knowledge of the Bible as it relates to their lives and work.
Intellectually	Enable students to develop the knowledge, professional skills and attitudes appropriate to their professions.
Socio-Emotively	Identify and describe strategies for leadership for their working environment.
Vocationally	Demonstrate an understanding of the value of continuing information technology related training and development.

## E. Class Formation

(Assume each lecture takes 75 minutes. The following topics need 13 lectures. These will be adjusted based on the actual progress in a semester.)

- C1. What is information security (1 lecture)  
Cover the basic concepts.



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C2. Identification and authentication (1 lectures)

Security principles of identification and authentication.

C3. Authorization and access control (1 lectures)

Discuss use of the authorization and access control.

C4. Auditing and accountability (1 lectures)

Discuss the use of auditing and accountability.

C5. Crptography (1 lectures)

Discuss the use of Crptography and go over the history of the tools.

C6. Laws and Regulations (1 lectures)

Discuss the number of laws and regulations that exist.

C7. Operations Security (1 lectures)

Talk about the history of operational security.

C8. Human element security (1 lectures)

Discuss several issues that pertain to the human element of information security.

C9. Physical Security (1 lecture)

Address the main categories of physical security controls.

C10. Network Security (1 lecture)

Discuss and Address network security pros and cons

C11 Operating System Security

Explore hardening as one of the primary tools for securing the operating system

C15 Social Engineering

Examine security tools from an application perspective, including sniffers such as Wireshark, fuzzing tools including some developed by Microsoft.

C16 Current Trends

Identifying the assets in use,



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## F. Required Textbook(s)

No.	Title	Author	Publisher	Library code	Year
1	The Basics of Information Security	Jason Andress	Syngress	ISBN-10: 0128007443	2014
2	<i>The InfoSec Handbook</i>	Umesh Hodeghatta Rao Umasha Nayak	Apress	ISBN-10: 1430263822	2014

## G. Recommended Reading and Other Course Resources (All reserved for reading)

No.	Title	Author	Publisher	Library code	Year
1	Cybersecurity and Cyberwar: What Everyone Needs to Know	P.W. Singer Allen Friedman	Oxford University Press	ISBN-10: 0199918112	2014
2	Cyber War: The Next Threat to National Security and What to Do About It	Richard A. Clarke	Ecco; Reprint edition	ISBN-10: 9780061962240	2011
3	Network and System Security	John R. Vacca	Syngress	ISBN-10: 012416689X	2013
4	<i>Managing Information Security</i>	John R. Vacca	Syngress	ISBN-10: 0124166881	2013
5	Introduction to Computer and Network Security: Navigating Shades of Gray	Richard R. Brooks	Chapman and Hall/CRC	ISBN-10: 1439860718	2013

## H. Course Calendar/Schedule, include the following

N	Date	Theme	Reading	Assignments
1	8/27	What is information security?	Chapter 1	Basics of this class, getting to know each other Syllabi and defining and exploring "speech" Lecture Explain Assignment
2	9/3	Identification and authentication	Chapter 2	Lecture
3	9/10	Authorization and access control	Chapter 3	Read Over the Break
4	9/17	Auditing and accountability	Chapter 4	Lecture Explain Assignment Reading Quiz 1
5	9/24	Cryptography	Chapter 5	Speech 2
6	10/1	Laws and Regulations	Chapter 6	Lecture Explain Assignment



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				Reading Quiz 2
7	10/8	Operations security	Chapter 7	Lecture
8	10/15	Human element security	Chapter 8	Lecture Explain Assignment Reading Quiz 3
Last Day to Request Grade Withdrawal "W" is Friday of 8 <sup>th</sup> Week				
9	10/22	Physical security	Chapter 9	Lecture Test 1
10	10/29	Network security	Chapter 10	Lecture Explain Assignment Reading Quiz 4
11	11/5	Operational system security	Chapter 11	Lecture
12	11/12	Application security	Chapter 12	Lecture Explain Assignment Reading Quiz 5
13	11/19	Social Engineering	Chapter 15	Lecture
14	11/26	Thanks Giving Break		
15	12/3	Current Trends	Chapter 16	Lecture
Last Day to Request Grade Incomplete "I" is Friday of 15 <sup>th</sup> Week				
16	12/10	Final		Test 2

## I. Assignments

Failure to follow instructions on any assignment will result in a minimum 10% grade reduction per infraction on that assignment.

**Reading Quizzes** will require you to have detailed knowledge of the material. Quizzes will be a combination of multiple choice, matching, and extended answer questions. Exams, or portions of exams, may involve an oral component.

**Discussion papers** must be 2 pages long and should cover an information security topic. In the paper, you should discuss the security topic and use at least one outside source to explain the security topic's real-world implications.

**Short papers** must be 3-4 pages long and should cover an information security topic. In the paper, you should discuss the security topic and use at least one outside source to explain the security topic's real-world implications. This paper should be more in depth than a discussion paper.

**Long papers** must be 6-10 pages and should explain a security topic to a deeper degree than what we cover in class. In the paper, you should demonstrate that you have acquired deeper knowledge of your chosen research topic.



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## J. Evaluation/Assessment Rationale for Grade Determination

### 1. Grade Assessment

Assignment #1: 5  
Assignment #2: 5  
Assignment #3: 5  
Assignment #4: 5  
Assignment #5: 5  
Assignment #6: 5  
Assignment #7: 5

Test #1: 20  
Test #2: 20

5 - 10 Reading Quizzes: 2-5 POINTS EACH

Professionalism: *possible deductions for unprofessional/inappropriate behavior*

TOTAL: 100 pts

### 2. Grade definition

A      Excellent  
B      Good  
C      Satisfactory  
D      Poor  
F      Failure

### 3. Grade scale

Letter Grade	Numeric Grade	Grade Points
A	95-100	4.0
A-	90-94	3.7
B+	87-89	3.3
B	84-86	3.0
B-	80-83	2.7
C+	77-79	2.3
C	74-76	2.0
C-	70-73	1.7
D+	67-69	1.3
D	64-66	1.0
D-	60-63	0.7
F	59 or below	0



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## K. Course Policies

### 1. Attendance, Preparation, and Participation:

An **excused** absence results from one of two things: **illness or death**. That's it.

Your **first** excused absence may be "pledged," that is, you present a signed statement that you were, in fact, too ill to attend class. Subsequent absences for illness **require a physician's note** stating that you must be excused. If you do not get a physician's note, you receive an **unexcused** absence. No exceptions. Absences for a death in the family require an obituary, or some other **verification**. If I do not get some kind of written verification, you receive an **unexcused** absence. No exceptions.

2: A **Qualified** absence results from missing **for a school-affiliated reason** or a religious reason. The most common qualified absence is for athletics.

- **ABSENCE FOR PARTICIPATION IN SPORTS WILL NEED VERIFICATION FROM THE COACH.**
- **ATHLETES—IT IS YOUR RESPONSIBILITY TO EITHER PROVIDE ME WITH A LIST OF ALL OF YOUR POTENTIAL ABSENCES AT THE BEGINNING OF THE SEMESTER. DO NOT COUNT ON YOUR COACH TO DO IT.**
- **ALSO, AN ADDITIONAL EMAIL REMINDER TO ME BEFORE EACH ABSENCE IS THE BEST WAY TO INSURE THAT YOU ARE NOT MISTAKENLY MARKED AS HAVING AN UNEXCUSED ABSENCE.**
- **IF YOU MISS BECAUSE CLASS IS SCHEDULED ON A DAY THAT IS A RELIGIOUS HOLIDAY IN YOUR TRADITION I REQUIRE WRITTEN VERIFICATION THAT IN YOUR RELIGION THAT PARTICULAR DAY IS A HOLIDAY.**

3: AN **UNEXCUSED** ABSENCE IS AN ABSENCE FOR ANY OTHER REASON.

- **UNEXCUSED REASONS INCLUDE: CAR TROUBLE, COURT DATES, FAULTY ALARM CLOCKS, WORK/JOB, STUDYING FOR TESTS IN OTHER CLASSES, OR ANYTHING NOT INDICATED AS EXCUSED OR QUALIFIED.**
- **DO NOT BE LATE. COMING TO CLASS LATE OR LEAVING EARLY IS AN UNEXCUSED ABSENCE.**
- **ONLY TWO UNEXCUSED ABSENCES ARE PERMISSIBLE FOR THIS CLASS.**
- **UNEXCUSED ABSENCES BEYOND TWO RESULT IN A FIVE-POINT REDUCTION FROM YOUR FINAL GRADE FOR EACH OCCURRENCE. MISSING SEVERAL CLASSES WITHOUT A DOCUMENTED REASON RESULTS IN A FAILING GRADE.**

#### **CLASSROOM PROFESSIONALISM:**

**YOU WILL NOT CHAT WITH OTHER STUDENTS IN THE COURSE OF CLASS UNLESS IT IS DURING A SMALL GROUP EXERCISE. YOU WILL NOT BE DISRUPTIVE IN CLASS. THE USE OF CELL PHONES, LAPTOPS, TEXT MESSAGING, IPODS (OR ANY ENTERTAINMENT/LISTENING DEVICE) IS OFF LIMITS**

**If you are disruptive or otherwise engage in unprofessional/inappropriate behavior in class I will deduct points off of your final grade per my discretion.**

**If you talk, or text, or if your cell phone/pager/etc goes off during class, I will deduct points**

#### **I HAVE A 2-STRIKE RULE WITH BEING DISRUPITIVE IN GENERAL:**

I will give you TWO warnings over the course of the semester. After that, I will **deduct** one point off of your **final** grade for each time YOU ARE BEING DISRUPITIVE. I may **not say anything** to you, but simply keep **knocking off points**. Therefore, it is better not to do it in the first place.

### 2. Deadlines:

Deadlines are Deadlines! Only exceptions are outlined in Course Policy/Makeup section on this syllabus.



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3. Advance Assistance:

Any students who have a disability that may prevent them from fully demonstrating their abilities should contact the instructor as soon as possible for accommodations to ensure their full participation and to facilitate their educational opportunities.

4. Participation and attendance:

Class participation grade is based on in-class participation as well as online participation. Class attendance is expected and anticipated. Some of the discussions and exercises are done and graded in-class so you must attend class to receive these points. All in-class activities are important to your learning and the tests. It's difficult for you to "make up" the experience of a class. There will be no make-up if you missed in-class activities, without prior and proper written notifications.

5. Make up work:

Homework and project deadlines will be hard. Late homework will be accepted with a 10% reduction in grade for each class period they are late by. However, once a homework assignment is discussed in class or the solution is posted, submissions will no longer be accepted. All assignments must be turned in before the start of class on the due date.

The students are responsible for discussing makeup exams if they miss exams due to excused absence. The instructor will choose a mutually agreed date and time for the makeup exam.

Late submission of homework assignments due to excused absences is not subject to the policies on late assignments.

6. Extra-credit work:

These points are offered for extra effort for students. There will be a maximum of 5% bonus points to your overall grade. Bonus points are offered with assignments and exams. Details will be given in corresponding assignments and exams.

7. Emergency procedures:

The purpose of this guideline is to briefly outline emergency procedures that faculty, graduate students, teaching assistants and staff should review with class attendees during the first class meeting.

Identify and point out the locations of:

Exits;

Fire extinguisher(s);

Pull stations (primarily near exits);

Telephone(s);

Electrical breaker panels and emergency on/off switches (if applicable); Emergency eyewash stations and safety shower (if applicable); Designated emergency gathering point; \*

Emergency Procedures Flip Chart.\*\*

If you discover a fire:





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Sound the alarm manually if it has not already been activated;  
Call 911 or ensure someone calls 911 if you choose to fight the fire; 911 calls from cellular telephones will connect with the Phoenix dispatch center. Under these circumstances let the dispatcher know which ASU campus you are calling from;  
Use the nearest fire extinguisher if you are trained and competent in the use of an extinguisher and if the fire can be controlled or extinguished with this method. If you choose to fight the fire, do so without putting yourself or anyone else at risk, and keep yourself between the exit and the fire.

The activation of a pull station should be followed with a call to 911 from a safe location. Any emergency warrants a call to 911, even if you think another person may have called. Specify whether you need police, medical or fire assistance.

When calling 911 have the following information available:  
Building name and address or closest mall intersection; Room number;  
Type of emergency, e.g., injury, chemical release, or fire.

If the fire alarm sounds:  
Stop what you are doing;  
Secure any dangerous activity;  
Assist persons with special exiting needs;  
Leave the building immediately by the nearest and safest exit; do not use the elevators;  
Do not re-enter the building if the alarm stops; wait until the "All Clear" has been given by the local fire department or campus police services.

If the emergency involves an unconscious or injured person:  
Ensure there is no danger to yourself or the victim;  
Do not move the victim unless their life is endangered by staying in the current location; Call 911 and remain with victim until help arrives.

8. Other policies on Withdrawal and Grade Permanence, Academic Integrity, and Appeals and Grievance procedures refer to the Student Handbooks and Catalog.

## L. Support Services

Research for speeches provides students multiple opportunities to gain familiarity and facility with computers. Computers are used for Internet research, text preparation, and visual aids, i.e., PowerPoint presentations.



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## **M. Bibliography**

Pruitt, Jason. Effective Communication Skills for Technical Professionals 2015. Information Technology Dept., Bethesda University, Anaheim, CA.

Microsoft Word file

**Instructor reserves the right to make adjustments to this syllabus in part or in whole as necessary.**