	From Hackers to CEOs: An Introduction to Information Security ITP 125 (2 Units)
Objective	Upon completing this course, students will: - Understand the fundamentals of information security - Learn the basics of securing a workstation - Understand basic networking and security technologies - Understand the relationship between security and management - Have a motivation to learn and improve their awareness and understanding of computers and security
Concepts	This course is designed to be an introductory course in information and computer security. This course starts with an analysis of threats to information integrity. Students will then get an introduction to security mechanisms and policies. Students will learn how security infrastructure will integrate with the rest of the business and IT infrastructure, through the use of hands-on projects.
Prerequisites/ Recommended Preparation	None
Instructor	Joseph Greenfield
Contacting the Instructor	joseph.greenfield@usc.edu	213-740-4604
Office Hours	3:00 – 5:00 Monday 2:00 – 3:30 Tuesday & Thursday
Office Location	OHE 412
Lecture	5:00 – 6:20 Monday, OHE 406
Lab	6:30 – 7:50 Monday, OHE 406
Recommended Textbooks	CISSP All-in-One Exam Guide, 5th Edition Shon Harris ISBN: 0-07-1602178
Web Site	All course material will be on Blackboard at blackboard.usc.edu
Additional Resources	Think like a computer scientist (Python Resource): http://openbookproject.net/thinkcs/python/english2e/ Beginners Guide to Python: http://wiki.python.org/moin/BeginnersGuide

Grading	Grading will be based on percentages earned in assignments. Students will have structured labs throughout the semester, to be conducted during the scheduled lab time. In addition, students will work in groups to prepare a 20-minute presentation on a topic of their choosing. The presentations will be conducted during the last few weeks of class. Labs 30% Presentation/Project 20% Midterm 15% Final Exam 25% Participation 10% Total 100%
Grading Scale	The following is the grading scale to be used for the final grades at the end of the semester 93% and above A 90% – 93% A- 87% – 90% B+ 83% – 87% B 80% – 83% B- 77% – 80% C+ 73% - 77% C 70% – 73% C- 67% – 70% D+ 63% – 67% D 60% – 63% D- Below 60% F
Policies	- Projects turned in after the deadline will automatically have 5% deducted per day. Projects will not be accepted after 1 week beyond the project's deadline - No make-up exams (except for medical or family emergencies) will be offered nor will there be any changes made to the Final Exam schedule. - It is your responsibility to submit your project on or before the due date. **It is not the responsibility of the lab assistant.** Do **not** turn in anything to your lab assistant! - All projects will be digitally submitted through blackboard except where specified. Always keep a backup copy of your labs
Academic Integrity	The use of unauthorized material, communication with fellow students during an examination, attempting to benefit from the work of another student, and similar behavior that defeats the intent of an examination or

| | other class work is unacceptable to the University. It is often difficult to distinguish between a culpable act and inadvertent behaviour resulting from the nervous tension accompanying examinations. When the professor determines that a violation has occurred, appropriate action, as determined by the instructor, will be taken.

Although working together is encouraged, all work claimed as yours must in fact be your own effort. Students who plagiarize the work of other students will receive zero points and possibly be referred to Student Judicial Affairs and Community Standards (SJACS).

All students should read, understand, and abide by the University Student Conduct Code listed in SCampus, and available at: http://www.usc.edu/student-affairs/SJACS/nonacademicreview.html |
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| **Students with Disabilities** | Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to your TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776. |

Introduction to Information Security
ITP 125 (2 Units)

Course Outline

Week 1 – Introduction, Computer Security, Ethics
- Course overview
- What is a hacker?
- I'm being hacked!?!
- Hacker methodology
- Ethics and Computer Law
Reading: Learning With Python, Chapters 1 & 2

Week 2 – **HOLIDAY**

Week 3 – Networking
- OSI 7-layer model
- Overview of networked systems
- Wireless and Wired networking
Reading: Learning With Python, Chapters 3 & 4

Week 4 – TCP/IP
- Modern networking
- TCP Ports
- Handshaking
Reading: Learning With Python, Chapters 5 & 6

Week 5 – Physical Security
- Mechanical security
- Surveillance systems
Reading: Learning With Python, Chapters 7 & 9

Week 6 – Operating Systems
- Processes
- Multitasking
- Memory management
- OS Architecture
- Client/Server Architecture
Reading: Chapter 24
Lab 5: Your First Hack!!!

Week 7 – Hashing & Cryptography
- One-way hashes
- Authentication
- Message digests
- Attacks on hashes
- PKI

Reading: Chapter 19

Week 8 – Information Gathering
- Google Hacks
- Information gathering techniques
- Searching

Reading: Chapter 20

Week 9 – MIDTERM

Week 10 – Threats, Attacks and Exploits
- Basic threat vectors
- Buffer overflows
- SQL injection
- Post-exploit access

Reading: TBA

Week 11 – Social Engineering
- Introduction to Social Engineering
- Phishing
- Human behavior and psychology

Reading: TBA

Week 12 – Lockdown and Defense
- Workstation security
- Server security
- Database security
- Perimeter defense

Reading: TBA

Week 13 – Information Security and Policy Management
- Information Security Policy
- AUPs
- Protecting the organization

Reading: TBA

Week 14 – Incident Response
- Responding to being hacked
- Introduction to forensics
- Triage and containment

    Reading: TBA

Week 15 – Conclusion
- Review for the final exam
- Conclusion to the course