SRA111 - Introduction to Security and Risk Analysis

Professor
Dr. Edward J. Glantz, P.E.

Welcome
The following will help introduce you to our course. In the spirit of continuous improvement, we will solicit feedback to improve this course with your assistance during the semester. Feel free to let me know how things are going, or just to introduce yourself. Best wishes for a productive semester!

Dr. G.

CONTENTS
SCHEDULE .......................................................... 2
CONTACT US .................................................................. 3
COURSE MATERIALS .................................................. 4
ASSESSMENT .................................................................. 4
SCHOOL POLICIES .......................................................... 7
COMMUNITY .................................................................... 8

COURSE DESCRIPTION
Regardless of profession, security, risk, and risk analysis has become more critical. This course relates security planning to study options in the College of IST’s SRA major: Information & Cyber Security, Enterprise Factors & Risk, and Intelligence Analysis & Modeling. Coverage includes information storage/access/networking risks, legal/ethical issues, criminal/terrorist exploits, and threats from global information/intelligence warfare.

Students will learn management of key risks through judicious application of three control “tools”: Programs (e.g., security education, training, and awareness), Policies (e.g., laws), and Technologies (e.g., firewalls, intrusion detection systems). Thus, students are exposed to a full spectrum of security activities, methods, methodologies, and procedures.

The stakes are high, as recent exponential growth in information parallels our dependence on information. “Security” (i.e., “freedom from harm or danger”) is needed for people (managers/policy makers, end-users/citizens, and related stakeholders), information, as well as other assets deemed valuable.
## SCHEDULE SRA111

1. Schedule changes posted in Angel Announcements and/or Community Discussion Board
2. Deliverable details (e.g., readings, assignments, projects, quizzes, etc.) posted in Angel.

<table>
<thead>
<tr>
<th>WEEK #</th>
<th>WEEK BEGINNING MONDAY</th>
<th>TOPIC</th>
<th>TEXT</th>
<th>ASSIGNMENTS SUNDAY 3:00 PM EST [Quizzes' as noted]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>09-JAN</td>
<td>WELCOME/COURSE INTRODUCTION</td>
<td>SYLLABUS, xvii-xviii, 34-39, 547-571</td>
<td></td>
</tr>
</tbody>
</table>
| 2      | 16-JAN                | SECURITY NEED I  
MLK Day 16-JAN | 47-49 | MILESTONE_I (TEAMS) 2% |
| 3      | 23-JAN                | SECURITY NEED II  
(GTD01) | | QUIZ01 (THUR) 7% |
| 4      | 30-JAN                | RISK MANAGEMENT | 10-17, 229-239, 244-267, 267-271, 271-286 | MILESTONE_II (CONTRACT) 3% |
| 5      | 06-FEB                | RISK ANALYSIS I | | COM01 3% |
| 6      | 13-FEB                | RISK ANALYSIS II  
(GTD01) | | QUIZ02 (THUR) 7%  MILESTONE_III 4%  (RESEARCHQUESTION) |
| 7      | 20-FEB                | PERSONAL SECURITY I | 1-10, 19-21, 45–101, 297–309, 315-322 | PERSEC 10% |
| 8      | 27-FEB                | PERSONAL SECURITY II | 331-349 | |

### 05-11 MARCH SPRING BREAK

<table>
<thead>
<tr>
<th>WEEK #</th>
<th>WEEK BEGINNING MONDAY</th>
<th>TOPIC</th>
<th>TEXT</th>
<th>ASSIGNMENTS SUNDAY 3:00 PM EST [Quizzes' as noted]</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>13-MAR</td>
<td>PERSONAL SECURITY III</td>
<td>355–395</td>
<td>QUIZ03 (THUR) 7%</td>
</tr>
<tr>
<td>10</td>
<td>20-MAR</td>
<td>ENTERPRISE SECURITY I</td>
<td>241-244, 153-174, 189-191, 191-220</td>
<td>CRYPTO 10%  COM02 3%</td>
</tr>
<tr>
<td>11</td>
<td>27-MAR</td>
<td>ENTERPRISE SECURITY II</td>
<td>417-461 (skim)</td>
<td>QUIZ04 (FRI) 7%  MILESTONE_IV (PROGRESS) 6%</td>
</tr>
</tbody>
</table>
| 12     | 03-APR                | NATIONAL SECURITY I  
(GTD01) | 109-146 | INTEL 10% |
| 13     | 10-APR                | NATIONAL SECURITY II | | |
| 14     | 17-APR                | IMPLEMENT SECURITY I  
(Presentation Classes) | 505–530 | SRTE  MILESTONE_VI (EVAL) 3% |
| 15     | 24-APR                | IMPLEMENT SECURITY II  
(Presentation Classes) | | QUIZ06 (THUR) 7%  COM03 3% |

**Finals Week**

NO final exam. A comprehensive final exam during finals week will be offered only to students who missed one regularly scheduled quiz due to a University approved absence.

Three “GTD” (GroupTime) Days: No unexcused absences on indicated first or second class day.

Only required to attend “Presentation” Classes on day team presents; all must attend to present.

---

1 Drop lowest quiz
COURSE OBJECTIVES

As an introductory course, students without prior experience should be successful while more experienced students will also learn something new. Our specific semester question is “How to manage growing threats to our personal, enterprise, and national security?”

Students without prior experience should be able to:

1. Define security, risk, risk analysis, and related terms,
2. Prioritize personal and information assets, and threat/vulnerability pairs,
3. Create a personal information security blueprint, and
4. Describe risk analysis (i.e., critical thinking), and control tools such as policies, education and technologies (i.e., firewalls, VPNs, access control, and cryptography).

CONTACT US

Detailed contact information and office hours are posted under Syllabus in ANGEL.

<table>
<thead>
<tr>
<th>Professor</th>
<th>TAs/LAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Glantz</td>
<td>Click Angel “Calendar” Tab</td>
</tr>
<tr>
<td>Office Location</td>
<td>307E IST Building, University Park, PA 16802</td>
</tr>
<tr>
<td>Office Hours</td>
<td>Office hours posted in Angel Calendar page; changes posted in Angel Announcements</td>
</tr>
<tr>
<td>Email</td>
<td>General or course-related questions (i.e., NOT personal) may also be sent by email, or posted to our Community Discussion Board.</td>
</tr>
<tr>
<td>Question Café</td>
<td>Chatting with our students is very important to us!</td>
</tr>
<tr>
<td>Email – Angel REQUIRED (e.g., quick Angel message to group “All Course Faculty”)</td>
<td>We only respond to email from YOUR PSU account (i.e., not Gmail or others)</td>
</tr>
<tr>
<td>Mail (and other) Users: Correctly configure send/return settings, including Angel forwarding. Reference <a href="http://sites.psu.edu/eglantz/2010/06/10/using-gmail-for-psu-email/">http://sites.psu.edu/eglantz/2010/06/10/using-gmail-for-psu-email/</a></td>
<td></td>
</tr>
<tr>
<td>Question Café</td>
<td>Students are required to “subscribe” to Instructor’s “Question Café” forum to receive critical course announcements via email. Subscribe feature found on Angel’s Resources page.</td>
</tr>
</tbody>
</table>

Prepared attendance is REQUIRED: Attendance tracking includes drop/add period. Students permitted a maximum of three (3) unexcused “personal day” absences without penalty; exceptions noted below.

Minus 30pts ➔ STUDENT WILL LOSE THIRTY (30) POINTS FOR EACH UNEXCUSED ABSENCE OVER THREE (3).

For example, an A- student with six (6) unexcused absences would likely receive a final grade of B.

1. Angel email “all course faculty” no later than 5PM the day of every absence,
   a. After first two (2) absences, an instructor office hour meeting is also required
2. Students are permitted the unexcused, or personal, absences noted above, without penalty,
   a. EXCEPTION: No personal absences during three GroupTime (GTD) Days, or day team presents during Week 14/15 Presentation classes.
3. Students with excused absences, and faculty permission, are required to make-up missed assignments within one week.

NOTE
COURSE MATERIALS

- **ISBN-10:** 1285448367
- **ISBN-13:** 9781285448367

*NOTE: We CANNOT confirm appropriateness of other editions (2nd/3rd editions, international edition, etc.), but suggest students compare with current edition available in Pattee’s course reserves. Former students also suggest amazon.com, textbooks.com, textbookw.com, and chegg.com, among others. Please post newer suggestions in our Angel “Community Forum”*

**REQUIRED USB Thumb Drive:** Use to bring assignment drafts to office hours for feedback. Any size or brand should be sufficient.

**OPTIONAL Course Pack** (~200 pages): Use for note-taking, referencing weekly learning objectives/terms, and assignment information. Available from SBS (Student Book Store) on College Avenue, and usually the Hub bookstore.

ASSESSMENT

Assignments are collected “electronically” in Angel, and due as shown in the above semester schedule. Best is to compose assignments using a word processor, and then use Angel’s “Paste as Plain Text” feature. Finish formatting using Angel’s HTML editor. See **ASSIGNMENTS** section under **COURSE POLICIES** for related information, including late submissions.

Score Tracking Table

Students are provided multiple opportunities to demonstrate course material proficiency. All assignments are required, grades are not “curved,” and there is no extra credit. Note “problem resolution time limits” below under Grade Distribution and Angel Grade Book.

<table>
<thead>
<tr>
<th>GRADEBOOK REPORTING CODE</th>
<th>COURSE REQUIREMENTS</th>
<th>MAX. POINTS</th>
<th>YOUR POINTS</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>QZ 01–06</td>
<td>QUIZ (individual), Testing Center, one-sheet, hand-written notes, drop lowest <a href="https://clc.its.psu.edu/eTesting/Students/">https://clc.its.psu.edu/eTesting/Students/</a></td>
<td>350</td>
<td>350</td>
<td>35%</td>
</tr>
<tr>
<td>TEAM I-VI</td>
<td>SEMESTER SECURITY PROJECT (form teams of three to five): 20/30/40/60/80/30 points.</td>
<td>260</td>
<td>260</td>
<td>26%</td>
</tr>
<tr>
<td>PERSEC LAB</td>
<td>PERSONAL SECURITY LAB (individual or with one partner)</td>
<td>100</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td>CRYPTO GAME</td>
<td>CRYPTO GAME (individual or with one partner)</td>
<td>100</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td>INTEL GAME</td>
<td>INTELLIGENCE ANALYSIS GAME (semester project team)</td>
<td>100</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td>COM 01–03</td>
<td>COMMUNITY (individual) “Students improving learning for peers” (prepared attendance and contributions)</td>
<td>90</td>
<td>90</td>
<td>09%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>1,000</td>
<td>1,000</td>
<td>100%</td>
</tr>
</tbody>
</table>

**NO FINAL EXAM**

**TIP** - Use the above table to track your progress in the course. If you are not meeting your expectations, please come to office hours EARLY IN THE SEMESTER to brainstorm changes in your approach (bring notes and PSU student ID). In particular, we STRONGLY ENCOURAGE students to come to office hours to review quiz performance. For maximum benefit, attend office hours shortly after results are released.
Grade Assignments

Students are guaranteed the following grade assignments if they meet the cutoff points listed in the table below.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>950 pts (95.0%)</td>
<td>95.0%</td>
</tr>
<tr>
<td>A-</td>
<td>900 pts (90.0%)</td>
<td>90.0%</td>
</tr>
<tr>
<td>B+</td>
<td>870 pts (87.0%)</td>
<td>87.0%</td>
</tr>
<tr>
<td>B</td>
<td>850 pts (85.0%)</td>
<td>85.0%</td>
</tr>
<tr>
<td>B-</td>
<td>800 pts (80.0%)</td>
<td>80.0%</td>
</tr>
<tr>
<td>C+</td>
<td>770 pts (77.0%)</td>
<td>77.0%</td>
</tr>
<tr>
<td>C</td>
<td>700 pts (70.0%)</td>
<td>70.0%</td>
</tr>
<tr>
<td>D</td>
<td>600 pts (60.0%)</td>
<td>60.0%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 600 pts (&lt; 60.0%)</td>
<td>&lt; 60.0%</td>
</tr>
</tbody>
</table>

The above cutoffs are never raised. In rare circumstances, the instructor may elect to slightly lower some cutoffs at the end of the semester when assigning final grades. Any adjustment would be made uniformly for all students.

**SINCE UNIFORM CONSIDERATION IS OUR POLICY, WE DO NOT RESPOND TO EMAIL REQUESTS FOR SPECIAL CONSIDERATION.**

**COURSE POLICIES**

**INSTRUCTOR EXPECTATIONS**

“Community”
Students need to be actively involved in the course to create a successful experience. To “improve learning in this class” for all students, we require prepared attendance and active contributions.

**ASSIGNMENTS**

Assignments are submitted in Angel. We do NOT accept assignments sent directly to instructors via email.

- Quizzes are always individual assignments.
- Some graded assignments may permit a single submission from two partners working together, and will be announced in advance when available. Original submitter will indicate selection of this option by including partner’s identity in the appropriate submission field. The other partner must confirm this intent by separately completing a simple “partner confirmation form.”
- Team assignments must clearly indicate active and inactive members (by team leader, or designate) AT TIME OF SUBMISSION. Team assignments may NOT be completed individually.

**Late Assignment**

Students are responsible for completing their own work and submitting the work as directed on the assignment. All assignments must be completed on time to receive credit. Since all assignment deadlines are clearly disclosed in the syllabus at the beginning of the semester, students are encouraged to submit assignments early. Late assignments, when permitted, must be completed within one week of the original due date, and will incur a 20% point reduction.

**Technical Difficulties**

To minimize technical difficulties submitting assignments, students are required to SUBMIT EARLY and VERIFY SUBMISSION SUCCESS. Complete practice assignments and notify instructors if you need assistance. Extensions may be provided in rare instances of PSU Course Management System (e.g., Angel) outages; outages may be verified at http://alerts.its.psu.edu/.

**Academic Integrity**

It is the University, IST College and course policy to enforce academic integrity in this course. In addition, students should understand that the value of the PSU diploma is related to the quality of the learning. The value of a diploma from any school not actively assuring integrity would be low, at a cost to all students.

The use of work by other students is specifically prohibited and subject to the University's Academic Integrity provisions (see “Academic Integrity” under school policies below). Providing assignment solutions to others,

---

2 “May no act of ours bring shame,” from the Penn State Alma Mater by Fred Lewis Pattee; See also, http://www.psu.edu/oue/integrity.html
3 See http://ist.psu.edu/current-students/academic-integrity/academic-integrity
whether for fee or free, is also specifically prohibited and subject to Academic Integrity processes. **WE SPECIFICALLY ASK THAT YOU DO NOT SHARE FILES OR ANSWERS.** Note that projects are creative works that must be “materially unique” from other students. In addition to unique content, we also expect a unique presentation “look and feel” (i.e. the visual appearance comprised of a consistent color scheme, layout, typography, design treatments and graphic elements working in harmony).

HTTP://TURNITIN.PSU.EDU: When directed, students in our course are required to register with, and submit files of written papers to, this web-based plagiarism detection and prevention system.

**SEVERE PENALTIES:** The first academic integrity violation will result in a point reduction equal to **1.5 TIMES** the maximum original point value (e.g., a 40 point assignment would be recorded as negative 20 points), increasing to **2 TIMES** on the second violation (e.g., a 40 point assignment would be recorded as negative 40 points). A third violation will result in **FAILING** the course. Violations may be on the same or different assignments. Courses failed for academic violations may be noted on the student transcript. When in doubt, meet with instructors PRIOR to submission.

**EXCUSED ABSENCES**

*From Angel, email “All Course Faculty” prior to any excused-absences that may interfere with assignment completion.*

**Contact instructor immediately to work out alternatives**

Students who are absent from the university for vacations, religious holiday, or university-approved curricular or extra-curricular activity should plan to complete and submit assignments **BEFORE departure** (if the date due for the assignment occurs during their period of absence).

University Excused Absences
- Illness requiring cessation of normal activities (a medical excuse from your health care provider **may be required**)
- University-approved curricular or extra-curricular activity
- Emergency Military Service (excluding regular pre-scheduled activities)
- **Extreme** family emergency or death (note: weddings, graduations, or similar festivities are **NOT** valid excuses)
- Religious holiday or event (notify instructor at the beginning of the semester)

**QUIZZES AND MAKE-UP QUIZZES**

Each multiple choice/short answer quiz is technically not “comprehensive,” but instead builds on previous course material.

**Make-Up Quizzes**

Students are permitted to drop the lowest quiz, so make-up quizzes are **NOT** available. If a “University Excused Absence” (see above) prevents completion of a quiz, a comprehensive make-up quiz will be offered finals week as an alternative. In general, more options are available the earlier a student notifies the instructor.

**Quiz Materials**

Unless stated otherwise, students may optionally bring one two-sided sheet (8-1/2 x 11) of original hand-written notes.

**GRADE DISTRIBUTION/ANGEL GRADE BOOK**

1. In accordance with the University policy AD 11 on Confidentiality Of Student Records, grades or other student records will NEVER be provided by telephone, email, or to third parties. If you have difficulty in accessing your grades, or if you feel a recorded grade may be in error, contact the instructor immediately.

4 Please do NOT attend class with flu-like symptoms; instead, rest and hydrate. Students are permitted to use email to notify faculty of two (2) excused illness requests. Email must be received end of day for class absence requested. Additional excused absence requests require office hour discussion.
2. Student grades are posted in Angel Grade Book; students are responsible for monitoring grades in Angel.

3. **PROBLEM RESOLUTION TIME LIMITS:** Written documentation of any problem related to score assignment must be sent via email to ALL FACULTY from the Course Management System within **one-week** from the date scores are first reported “available” to students in Angel Course Announcements.

4. **CAUTION:** Until the semester ends, Angel Grade Book may not correctly calculate ungraded or zero-graded assignments; students are encouraged to individually calculate estimated grade.

**REGISTRATION**

Penn State student registration is a two-step process. First, students register for courses. Second, students complete registration by payment of applicable tuition and fees. Students not completing registration are noted in class lists with message "**Registration Not Complete.**” Faculty are not obligated to provide instruction or administer assessment to these students. Please contact the Registrar's office immediately if this is your status.

**SCHOOL POLICIES**

**ACADEMIC INTEGRITY**

According to the Penn State Principles and University Code of Conduct:

*Academic integrity is a basic guiding principle for all academic activity at Penn State University, allowing the pursuit of scholarly activity in an open, honest, and responsible manner. According to the University’s Code of Conduct, you must neither engage in nor tolerate academic dishonesty. This includes, but is not limited to cheating, plagiarism, fabrication of information or citations, facilitating acts of academic dishonesty by others, unauthorized possession of examinations, submitting work of another person, or work previously used in another course without informing the instructor, or tampering with the academic work of other students.*

Any violation of academic integrity will be investigated and, where warranted, corrective academic and/or disciplinary action will be taken.

**AFFIRMATIVE ACTION & SEXUAL HARASSMENT**

The Pennsylvania State University is committed to a policy where all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by Commonwealth or Federal authorities. Penn State does not discriminate against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, gender, sexual orientation, or veteran status. Related inquiries should be directed to the Affirmative Action Office, 328 Boucke Building.

**AMERICANS WITH DISABILITIES ACT**

The College of Information Sciences and Technology welcomes persons with disabilities to all of its classes, programs, and events. If you need accommodations, or have questions about access to buildings where college activities are held, please contact us in advance of your participation or visit. If you need assistance during a class, program, or event, please contact the member of our staff or faculty in charge.

**AN INVITATION TO STUDENTS WITH LEARNING DISABILITIES**

It is Penn State’s policy to not discriminate against qualified students with documented disabilities in its educational programs. If you have a disability-related need for modifications in your testing or learning situation, your instructor should be notified during the first week of classes so that your needs can be accommodated. You will be asked to present to the Office of Disability Services (located in 116 Boucke Building (814) 863-1807) documentation that describes the nature of your disability and the recommended remedy. You may refer to the Nondiscrimination Policy in the *Student Guide to University Policies and Rules.*
COMMUNITY

“Together We Are Smarter”

COMMUNITY IDEAS

1. Prepared Attendance
   - Severe point deductions for each unexcused absence beyond course limit
   - Contribute in class, having reviewed course material

2. Community Discussion Board (Angel)
   - Examples:
     - Discuss course content in the news. Post links to articles with comments on why important and what we will find if we follow link.
     - Responses to peer questions on course and assignments
     - Lecture notes
     - Suggested definitions for course terms
   - Keep discussion threads together; to prevent deletion, do not start a new post if related to a similar discussion already begun
     - NEW POST (use link at top of screen)
     - REPLY TO (use link at bottom of screen)
   - Do NOT post personal or confidential questions, or answers to assignments

3. Class Presentation: Students with a specific course topic interest/experience may coordinate with instructor to present information to peers

4. Instructor Meeting: Provide course feedback/improvements in office hours.

5. Quiz and Weekly Feedback
   - Complete weekly Angel surveys, or email instructors three responses: 1) Topic you liked best, 2) Topics needing more explanation, and/or 3) General course improvement suggestions