CSEC 472: Authentication and Security Models
Section 01
Spring 2018

Instructor	Rob Olson
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Office Hours	T/TH 11-12:30
Course Time	M 12:20-1:15, W: 12:20-1:15 AND 1:25-2:20
Course Place	GOL-2410

1. Catalog description: This course will provide students with an introduction to authentication controls and commonly used trust models. Students will explore existing academic models along with how authentication and trust models are implemented across various software platforms. In addition, students will write and present their own implementations of access controls systems.

2. Prerequisite(s):

CSCI 462:   Introduction to Cryptography **AND**
CSEC 101:   Fundamentals of Computing Security

3. Course Textbook:

None, but there may be supplemental reading provided on a week-by-week basis.

4. Course Objective: This course will review basic cryptology techniques and introduces their application to contemporary authentication methods. As more users access remote systems, the job of identifying and authenticating those users at distance becomes increasingly difficult. The growing impact of attackers on identification and authentication systems puts additional strain on our ability to ensure that only authorized users obtain access to controlled or critical resources.

5. Course Structure

- Lectures/Demonstrations
- 3 Group Lab Assignments
- 1 Group Project/Paper
- 1 Midterm Exam
- 1 Final Exam

6. Tentative Course Outline:

Week 1:	Intro to Auth/SecModels	
Week 2-3:	Trust and Security Models	
Week 3-5:	Crypto for Authentication	A1: Windows Authentication
Week 5:	Discretionary Access Control	
Week 6:	Active Directory	
Week 7:	Mandatory Access Control	A2: Secure DVWA with SELinux
Week 8:	SELinux	
Week 9:	Web Authentication/SAML	
Week 10:	Multi-factor Authentication	
Week 11:	Wireless Authentication	A3: Tunneling OAuth through Kerberos
Week 12:	Anonymity	
Week 13:	Student Presentations / Formal Modeling	
Week 14:	Student Presentations / Biometrics	

7. Grading:

The relative weight of each component of your grade is shown on the table below.

Component	Percentage
Midterm/Final	40% (15%/25%)
Project	30%
Lab Assignments	30%

The table below lists student's grade for a given percentage achieved.

94%-100%	90%-93%	88%-89%	82%-87%	80%-81%	78%-79%	72%-77%	70%-71%	60-69	0%-59%
A	A-	B+	B	B-	C+	C	C-	D	Fail

8. Exams, Projects, and Labs/Assignments:

All exams must be taken on the day that they are given. All projects and lab assignments are due on the date listed in the hand-out provided by the instructor. No exceptions will be made, except for excused absences. Excused absences will be granted for the reasons such as the following and require written documentation:

1. Illness of the student or serious illness of a member of the student's immediate family.
2. A death in the student's immediate family
3. Trips sponsored by official RIT student groups, academic units, or athletic teams.

4. Major religious holidays

A student requiring special considerations for reasons 3 or 4 should talk to the instructor at least a week in advance, whenever possible.

9. Class Attendance

Attendance is highly recommended. The students are responsible for all material presented in class and in assigned reading. If a student misses a class, it is their responsibility to obtain the lecture information, including announcements, from fellow students. Make-up lectures will not be given. You are responsible for all information from each lecture whether or not the lecture was attended.

10. Academic Honesty

The following is taken from the RIT policy on academic honesty[1]:

"A breach of student academic integrity falls into three basic areas: cheating, duplicate submission and plagiarism

A. Cheating: Cheating is any form of fraudulent or deceptive academic act, including falsification of data, possessing, providing, or using unapproved materials, sources, or tools for a project, exam, or body of work submitted for faculty evaluation.

B. Duplicate Submission: Duplicate submission is the submitting of the same or similar work for credit in more than one course without prior approval of the instructors for those same courses.

C. Plagiarism: Plagiarism is the representation of others' ideas as one's own without giving proper attribution to the original author or authors. Plagiarism occurs when a student copies direct phrases from a text (e.g. books, journals, and internet) and does not provide quotation marks or paraphrases or summarizes those ideas without giving credit to the author or authors. In all cases, if such information is not properly and accurately documented with appropriate credit given, then the student has committed plagiarism."

Potential punishments for academic dishonesty may include:

- Receiving a failing grade on an assignment
- Failing the course
- Dismissal from the university

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[1] The policy on academic honesty can be found at
https://www.rit.edu/academicaffairs/policiesmanual/d080

11. Responsible Disclosure

During the course of the semester, students in CSEC 472 may uncover previously unknown security vulnerabilities in mobile applications or mobile devices. In the event that this happens, students will be expected to practice responsible disclosure practices. This includes, but may not be limited to, submitting the vulnerability to a bug bounty program or notifying the company of the vulnerability far enough in advance of releasing details to give the company sufficient time to respond. The instructor reserves the right to penalize a students' grade if the student fails to practice responsible disclosure and to recommend the student for further academic discipline if needed.