

Applied Social Engineering

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A hands-on course in which students investigate social engineering attacks in a controlled lab environment and develop technical, policy, and risk management responses. Topics social engineering mechanics, principles of persuasion, preparation, traditional social engineering attacks and defenses, Ambient Tactical Deception (ATD), policy response, risk management, ethics and societal impact of social engineering. Students work on an individual defense to a practical social engineering scenario of their choice for their final project.

Assignments

This is the tentative schedule for the class:

W	Module	Assignment
1	Introduction	Homework 1
2	Principles of Persuasion in Social Engineering	Homework 2
3	Social Engineering Targeting	Homework 3
4	Traditional Social Engineering Attacks	Homework 4
5	Trolling, Misinformation, Rumors	Homework 5
6	Ambient Tactical Deception	Homework 6
7	Propaganda and Pseudo-events	Homework 7
8	Ethical Aspects of Social Engineering	Homework 8
9	Social Engineering and Nonverbal Behavior	Homework 9
10	Project presentations	

The weights of each assignment for contributing to the final average are as follows:

Assignment	Weight in final grade
Homework	45%
Project	45%
Presentation	10%

Assignments are due a week after each is assigned at 11:59 PM. One page, clear language. Your choice of formatting. A .pdf file submitted in the D2L folder.

Grading

Grading is based on a percentage basis, which is then convert to a letter as:

Percentage	Grade	Percentage	Grade	Percentage	Grade
100-92	A	91-90	A-		
87-82	B	81-80	B-	89-98	B+
77-72	C	71-70	C-	79-78	C+
67-62	D	61-60	D-	69-68	D+
				59-0	F

Project/Presentation

Mid quarter, you have to choose a topic of interest and conduct a substantive resaerch that shall result into a final paper and presentation. In the week of finals, you will present your paper. If you are an online student you still have to make a presentaion and voice over it. Or any type of recorded presentation will do. For your paper to be graded and included in your final grade, you HAVE to deleiver a presentaiton.

Week-by-week schedule

Week 1: Introduction

Social Engineering concept. Social engineering targets and goals. Taxonomy of social engineering attacks: types, attackers, channels, vectors.

Homework 1:

Is Kevin Mitnik that smart or we people are letting him take them for a ride? Watch the documentary and provide your commentary: <https://www.youtube.com/watch?v=tlVAjgiatqM>
Don't write: "He is cool, I think this is real; Hackers are there to get you" - I know that already. Academic level of commentary is expected. You are not writing a Facebook post or a blog.

Week 2: Principles of Persuasion in Social Engineering

Social engineering theory. Elaboration Likelihood Model (ELM) and persuasion techniques. Compliance principles: Commitment, reciprocation, consistency, and social proof, likability and trust, fear, authority, and scarcity.

Homework 2:

Why persuasion in marketing is okay, but in social engineering not? Review the assigned reading to argument up your position:
https://www.jstor.org/stable/26059056?seq=1#metadata_info_tab_contents [access it through DePaul's Library. Figure it out how, you ought to protect us from social engineering]
Sure enough, use real-world examples of social engineering and marketing persuasions. Cite them. Otherwise you are running the risk of plagiarism. And I don't tolerate that.

Week 3: Social Engineering Targeting

Open Source Intelligence (OSNIT). Target profiling. Elicitation. Pretexting.

Homework 3:

OSNIT in action - use the framework and Maltego to profile a target - yourself:

<https://www.paterva.com/downloads.php#tab-2> (or pick an OSNIT tool of your choice:

<https://github.com/v2-dev/awesome-social-engineering>). See what you can find about you

and that can be used for a potential social engineering campaign against you. Report the

findings (redacted, of course - I have no intentions of lurking into students' OSNIT profiles;

just the sites and general description of what info is available). Write a hypothetical pretexting scenario.

Week 4: Traditional Social Engineering Attacks

An ontological model of a social engineering attack. Social Engineering attacks framework.

Social engineering templates. Creating a test social engineering campaign - phishing. Post-

phishing exploitation.

Homework 4:

Look around for the latest phishing trends. Use GoPhish to create and test the campaign with your own email (or set up a dummy email account): <https://getgophish.com> Report the steps,

cues, and methods you used to create your campaign. Include screenshots from the GoPhish dashboard documenting the successful execution of the test phishing campaign.

Write a hypothetical post-phishing exploitation scenario.

Week 5: Trolling, Misinformation, Rumors

Trolling – behaviour, manifestation, traits. Online expressions. Misinformation. Rumors. Effect on decision making.

Homework 5: Find a particularly interesting trolling / misinformation / disinformation / rumor case. Write a report on how it relates to the social engineering principles we discussed in the previous classes.

Week 6: Ambient Tactical Deception

ATD Concept. Technical Implementation. ATD persuasion and compliance principles. Goals

and target profiling. ATD threat model. ATD types, channels, vectors. Creating an ATD test

campaign of choice - swap/insert/modify in email/webpage/social media. Post-ATD

exploration (psychological operations and cyberwarfare). ATD defenses.

Homework 6: Come up with your ATD example. Show me how good of ATD attacker you are. NO Trump tweets – out of bounds, a very low hanging fruit.

Week 7: Propaganda and Pseudo-events

History of propaganda. Foreign, domestic, war-times. Use of propaganda for social engineering. Mass media and propaganda. Pseudo-events. Celebrities.

Homework 7: Watch at least one part of The Century of the Self and tell me what do you think: https://www.youtube.com/results?search_query=the+century+of+self Again, I know Ed Bernays is cool. Don't summarize me the movie or the part; this is not an IMDB review. Tell me how it fits into the narrative discussed in class.

Week 8: Ethical Aspects of Social Engineering

Trolling – behaviour, manifestation, traits. Online expressions. Misinformation. Rumors. Effect on decision making.

Homework 8: Is it ethical for the president to use Twitter as a means of propaganda? Why the president is the one Twitting and not the White House? Start thinking this and make sure your answer is not clouded by your detest/favor of the president [This is academic course, you have to move beyond being a "propagandee"]. Think broadly and write about the implications of using utilitarian or deontological approach in public relations.

Week 5: Social Engineering and Nonverbal Behavior

Amygdala hijack. Emotional responses. Misuse of Empathy.

Homework 9: Write a reflection on how think people can prevent amygdala hijack for social engineering. No lame or unsupported ideas. This is a serious psychological condition. Go and look how has manifested in other domains.

Week 10: Final Project presentation

Students will present their final projects and solicit peer review comments, critiques, and suggestions.

Other Important Information

Attendance: I expect you will attend every class.

Class Cancelation: Unless DePaul closes because of weather, we will have class.

Academic Integrity: I expect that you have read and understood DePaul's Academic Integrity policy: <http://academicintegrity.depaul.edu/> .

Changes to Syllabus: I reserve the right to change the syllabus and you will be timely informed of such changes. I don't expect significant deviations of the course agenda.

Academic Policies:

<http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx>

Students with disabilities: Contact the instructor or the Center for Students with Disabilities (CSD) at: csd@depaul.edu prior to the class start.

Preferred Name & Gender Pronouns: I will gladly honor your request to address you by an alternate name or gender pronoun: <http://policies.depaul.edu/policy/policy.aspx?pid=332>

Online Teaching Evaluation (OTE): Please evaluate the course in CampusConnect when you receive a notification towards the end of the quarter.