T54B417 Advanced Information Security

Matti Juutilainen

Mikpoli, MB311

Matti.Juutilainen@xamk.fi

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T54B417 Advanced Information Security

- 5 ECTS credits
- Lessons during periods 1 and 2
- Four lessons per week
  - Friday 8:**30** – 11:30

- All course content (schedules, material, labs, exercises and important information) can be found in Moodle
  - **https://moodle.xamk.fi/**
  - Course name: **Advanced Information Security**
    (use the search!)
  - Enrollment key: **AIS2018S**

Courses before this

CCNA 1 - 4

CCNA Security

Advanced Information Security

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The purpose of the course

- To **develop your knowledge** of information security further
  - Although we will have a holistic view to the security we will use **networks** as our examples
- To give you the knowledge to analyze, evaluate and develop the information **security policies** of different kinds of organizations
- To familiarize you to the principles of **network attacks** and **defending against them**

- Course contents:
  - Part 1: IT security policies and auditing
  - Part 2: Attacking/defending in practice
  - Part 3: Microsoft Security Fundamentals

The contents

- **Part 1: Creating a secure network environment**
  - Four evaluated tasks
  - We start with a **paper work** and end with **actual implementation** and **auditing** of the network
  - We have to work one Saturday too because we need a longer session to be able to implement our network

- **Part 2: Attacking/defending**
  - The idea is to **build deeper understanding** of a specific attack type
  - This includes to actually **test the attack in action** and see **how to defend**

- **Part 3: Review: Microsoft Security Fundamentals MTA certification**
  - At the end of the course you will have a review of security concepts
  - It will be based on the Microsoft MTA academic course exam 98-367 Security fundamentals
  - There is not much new there for you but it sums up the security topics
  - I will go through the material with you (teach) at the end of the course

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Evaluation

- Course evaluation is based on
  - Part 1: IT security policies and auditing (Best Education Inc. case)   40 %
  - Part 2: Attacking/defending (practical tasks)   30 %
  - Part 3: Microsoft security fundamentals (quizzes + the exam)   30 %
- Remember to **follow the deadlines** for all submissions! (heavy minus points for late submissions)

- Grading scale
  - 0 = total points < 40,
  - 1 = total points ≥ 40,
  - 2 = total points ≥ 52,5,
  - 3 = total points ≥ 65,
  - 4 = total points ≥ 77,5,
  - 5 = total points ≥ 90

Course schedule plan

WEEK	FRIDAY CLASSES	WEEKEND
2 (12.1.)	Course introduction **PART 1 (SECURITY POLICY AND AUDIT)** Lecture: General policy information, lower level policies, **task 1** (Network config policy, DL 29.1.)	
3 (19.1.)	Lecture: Intro to our case, **task 2** (Network plan, DL 5.2.) + **task 3** (Network config document, DL 19.2.)	
4 (26.1.)	*RESIT EXAMS* / Doing the network plan and tasks	
5 (2.2.)	**Group meeting 1**: Showing network plans to the other group & teacher Implementing & testing the network design with Packet Tracer Lecture: Auditing, **task 4** (Network auditing document, DL 19.2.)	
6 (9.2.)	**Group meeting 2**: Showing audit plans to the other group & to teacher Preparation for the Saturday session	**SATURDAY 10.2. FULL DAY SESSION**
7 (16.2.)	Finalizing the network configuration and auditing documents **Group meeting 3**: Showing audit reports to the other group & to teacher PART 1 feedback and results	
8 (23.2.)	*FREE (done on 10.2.)*	
9	*HOLIDAY*	
10 (9.3.)	**PART 2 (ATTACK PROJECT)**: Introduction, **group task 1** (Background work, DL 18.3.), **group task 2** (Attack plan, DL 25.3.), **group task 3** (Attack!, DL 15.4.)	
11 (16.3.)	Doing the part 2 project tasks	
12 (23.3.)	Doing the part 2 project tasks	
13 (30.3.)	*LONG FRIDAY – NO CLASSES*	
14 (6.4.)	**PART 3 (MTA Security Fundamentals)**: Review lecture + doing the part 2 project tasks	
15 (13.4.)	Finalizing and returning the part 2 project tasks	
16 (20.4.)	Microsoft **MTA Security Fundamentals Certificate EXAM** (retakes on 8.5. or 5.6.)	
17 (27.4.)	*FREE (done on 10.2.)*	

Tunne huominen - All for the future.