

Network Security (CYB 630)

Dr. Mohammed Anbar



عرض توجيہي Orientation show



Who am I?



Dr. Mohammed Anbar

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2013	PhD in Advanced Internet Security and Monitoring. National Advanced IPv6 Centre of Excellence (NAv6) , Universiti Sains Malaysia (USM), Malaysia
2009	Master of Information Technology Universiti Utara Malaysia (UUM), Malaysia.
2007	Bachelor of Computer System Engineering AL-Azhar University, Gaza, Palestine .



Course details

Network Security (CYB630)

3 credit hours



Course details (cont.)

- This course provides the fundamental knowledge needed to analyze risks to the system and implement a workable security policy that protects information assets from potential intrusion or damage.
- Students will learn about a variety of network security attacks such as attacks on the web and email.
- Also, students will learn which countermeasures to deploy to thwart potential attacks.



Course outcomes

1

Understand network infrastructure security,

2

To be familiar with attacks detection mechanisms (firewall, IDS, and IPS) and a clear understanding of their importance,

3

To master fundamentals of secret and public cryptography,

4

provide students with a high-level understanding of web and email security



Roadmap

- Web security
- Email Security

Introduction to web and email security

04

Introduction to detection mechanisms

02

- Firewall
- Intrusion Detection System (IDS)
- Intrusion Preinvasion System (IPS)
- Honeypot and honeynets

- Symmetric encryption algorithms
- Asymmetric encryption algorithms
- HASH function
- Public Key Infrastructure

Introduction to cryptograph

03

01

Network infrastructure security

- Introduction to infrastructure security
- Infrastructure security vs Information Security
- Switching, DHCP, and DNS security
- IPv6 Security



Learning Resources

1. Vincent Nestler, Gregory White, wm. Arthur Conklin, Principles of Computer Security: CompTIA Security+ and Beyond – Lab Manual, ISBN: 978-0-07-174856-8, MHID: 0-07-174856-3, McGraw Hill, 2011.
2. Aumasson, J. P. (2017). Serious cryptography: a practical introduction to modern encryption. No Starch Press.
3. Stallings, W. (2006). Cryptography and network security principles and practices 4th edition
4. Wong, A., & Yeung, A. (2009). Network infrastructure security. Springer Science & Business Media.



Lecture Structure

Module	Course Unit	Week #
1	Lecture 1: Introduction to Networks infrastructure security (part 1)	1
2	Lecture 2: Introduction to Networks infrastructure security (part2)	2
3	Lecture 3: IPv6 security	3
4	Lecture 4: Firewall	4
5	Lecture 5: Intrusion Detection Systems and Intrusion Prevention Systems	5
6	Lecture 6: Cryptography	6
7	Lecture 7: Public Key Infrastructure	7
8	Lecture 8: Web security (part 1)	8
9	Lecture 9: Web security (part 2)	9
10	Lecture 10: Email Security	10



Course Assessment



- ▶ Quiz (80% marks)
 - ▶ Number of Quizzes (Weekly)
 - ▶ 8 Marks for each Quiz.
- ▶ Final Exam (20%)



Course Assessment (cont.)

الأعمال	توزيع الدرجات - 100%
محاضرة مسجلة أسبوعيًا- السبت من كل أسبوع	حضور المحاضرة - حل الأسئلة المصاحبة
اختبار قصير مصاحب للمحاضرة بشكل أسبوعي	8 درجات لكل اختبار قصير - بمجموع 80 %
حلقة نقاش افتراضية أسبوعية لمناقشة محتوى المحاضرة المسجلة	الحضور اختياري
الاختبار النهائي	20%



Thank You

