



UNSW
CANBERRA

Cyber



Wireless, Mobile and Internet of Things Security

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| Location | UNSW Canberra |
| Duration | 5 days |
| Standard Price | \$4,550.00 |
| Defence Price | \$4,095.00 |

Description

Wireless technologies are ubiquitous in modern systems yet pose unique challenges. This technical course looks at security issues of a broad range of wireless devices from wireless computers, mobile phones and operational technologies. The course takes an in-depth look at types of different protocols, technologies, contextual considerations as well as practical approaches to attack and defence.

Topics covered include:

- 802.11 Wi-Fi
- Common attacks and defenses for individual devices and IoT
- Software defined radio
- Bluetooth, ZigBee, DECT and a library of other lab exercises individually tailored to the class

This course assumes knowledge from Cyber Security Boot Camp. While this is a technical course, it is instructor led and designed so non-technical students can further understand how attacks are carried out and better comprehend defence techniques.

Learning Outcomes

On completion of this course, participants should be able to:

- Understand network topologies and protocols within wireless technologies.
- Understand interconnected hardware and software.
- Understand the issues facing wireless vs wired technologies.
- Understand integrated networks.
- Engage in discussion about and comprehend the security implications pertaining to wireless technologies.

Who Should Attend

Security engineers, IT/Cyber professionals, Network security staff, Incident response teams, Security consultants.

NICE Framework mapping

This course maps to the highlighted work categories:



Securely Provision



Oversee & Govern



Analyse



Investigate



Operate & Maintain



Protect & Defend



Collect & Operate

Course Day Breakdown

Day 1

Introduction to wireless technology, common attacks and 802.11

Day 1 of the course introduces students to networking basics such as protocols used, transport layers, proxies and reorientates students to the wireless environment. The day will feature common discovery techniques as well as attacks on common 802.11 infrastructure.

Topics

Wireless technologies and Security; Networking Basics, Fundamentals of Wireless.

Day 2

Continuation of 802.11

Day 2 sees students continue to develop their understanding of 802.11 with a focus on attacking client devices, complex networks as well as basic defence techniques.

Topics

Client Side Attacks; Monitoring and Defences;

Day 3

Introduction to software defined radio

Day 3 of the course will introduce students to software defined radio as well as areas relating to the field including DECT, mobile telecommunications and satellite communications.

Topics

SDR; Satcom; DECT; Mobile Telecommunications; POCSAG.

Day 4

802.15.4, PANs and Bluetooth

Day 4 focuses on other bespoke networks, protocols and personal area networks including Bluetooth, NFC and 802.15.4. A “bull ring” of problem solving activities will be employed and instructor led for this activity.

Topics

PANs; Bluetooth; NFC; 802.15.4; Attack Surfaces; Zigbee Environment.

Day 5

IOT and defences

Our final day will conclude with an exploration of IoT environments, as well as defensive practices from a development and operational standpoint.

Topics

IoT Research and Defences; IoT practical activities.

*“A strong combination
of interesting content and
practical exercises.”*

Course participant

CRICOS No. 00098G • 337361580

UNSW Canberra Cyber

UNSW Canberra Cyber is a unique, cutting-edge, interdisciplinary research and teaching centre, working to develop the next generation of cyber security experts and leaders. The centre is based in Canberra at the Australian Defence Force Academy and provides professional, undergraduate and post graduate education in cyber security. Our air-gapped, state of the art cyber range offers a secure environment where we deliver a number of technical and highly specialised learning opportunities. Our courses are designed to give the next generation of cyber security professionals the skill sets needed to thrive in the industry. We can also create bespoke professional education programs tailored to your organisation's needs. Contact us at cyber@adfa.edu.au to discuss how.

Find out more

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