MANITOBA INSTITUTE OF
TRADES AND TECHNOLOGY

### Course Overview

**Course Code:** CDCA-180

**Program Name:** NSD

**Credits:** Full Credit

**Course Hours:** 60

**Prerequisite(s):** NSD-220, 230, 240

**Academic Year:** 2022

**Revision Date:** June 02ns, 2022

### Class Times & Information

**Delivery Model:**

Remote/Online

**Days:** Monday till Friday

**Times:** 08:30 - 03:30 p.m.

**Start Date:** June 14, 2022

**End Date:** June 24, 2022

### Instructor Overview

**Instructor:** Wilmer Almazan

**Phone:** 204.998.6286

**Email:** wilmer.almazan@mitt.ca

**Availability:** 08:30 - 03:30 p.m.

Mon-Fri

# Palo Alto Networks

Course Outline

## Course Description

It provides the knowledge and skills required for cyber security professionals responsible for planning, deploying, and troubleshooting networks using Palo Alto Networks Next-Generation Firewalls (NGFWs).

## Materials

**Reference Materials:**
Palo Alto Official Documentation
https://docs.paloaltonetworks.com/pan-os/9-1/pan-os-admin/getting-started.html

**Labs:**

https://netlab.mitt.ca/

## General Learning Outcomes

- Understand the components of the Palo Alto Networks Portfolio
- Operate Palo Altos Networks Next-Generation Firewalls to protect networks from cutting edge cyberthreats.
- Manage firewall objects such as addresses, services, dynamic lists, application filters, and application groups.
- Identify and implement security policies.
- Identify and implement source and destination NAT.
- Understand and configure APP-ID, Content-ID, URL Filtering, Decryption.
- Design and implement site-to-site VPNs
- Understand and implement active/passive High Availability (HA)

## Course Schedule

Please note that instructors reserve the right to adjust the course schedule without prior notice to meet the changing needs of the class.

| Week/Class | Topic(s) | Other Relevant Information |
|---|---|---|
| June 14 | **Understanding the Core Technologies**<br>**Setting Up a New Device** | Lab 01 |
| June 15 | **Interface Types**<br>**DHCP**<br>**Security and NAT Policies** | Lab 02<br>Lab 03 |
| June 16 | **Sub-Interfaces**<br>**Vlan Interfaces**<br>**Loopback Interfaces**<br>**Policy Based Forwarding**<br>**Building Strong Policies**<br>APP-ID<br>Content-ID | Lab 04<br>Lab 05A<br>Lab 05B |

| | | |
|---|---|---|
| June 17 | **URL Filtering**<br>**Decryption** | Lab 06<br>Lab 07 |
| June 20 | **Wildfire**<br>**User-ID** | Lab 08<br>Lab 09 |
| June 21 | **Midterm Exam 1 - Online**<br>**Global Protect** | Lab 10 |
| June 22 | **VPN and Advanced Protection** | Lab 11 |
| June 23 | **Monitoring and Reporting**<br>**High Availability** | Lab 12<br>Lab 13 |
| June 24 | **Final Theory Exam 09:00 AM**<br>**Final Skills Exam 01:00 PM**<br>**Q&A** | In-Person<br>Henlow Campus |

**Note:** Instructors reserve the right to adjust the course schedule without prior notification to meet the changing needs of the class. It is the responsibility of the student to follow up in cases of missed classes.

## Student Evaluation

| Type of Evaluation | Percentage of Grade | Week |
|---|---|---|
| **Labs** | **20%** | Ongoing |
| **Midterm Exam 1 - Modules 1 - 5** | **20%** | June 21 |
| **In Class Activities / Participation** | **5%** | Ongoing |
| **Final Theory Exam 2** | **25%** | June 24 |
| **Final Skills Exam** | **30%** | June 24 |

## Evaluation Details

**Labs and Assignments:** Students are required to submit all items of work, including labs and assignments, to be eligible to write the final exams. Labs and assessments are due on the date and time assigned by the instructor and shown on D2L (My Learning). **Any assessment item, not completed on or by the deadline, will receive a mark of zero (0).**

**Final Skills Exam:** One cannot write Final Skills Exam without completing all labs. The final skills exam will take place on June 24th, 2022 at 01:00 pm. No late entries allowed. The exam will be 2-3 hours long. **There is no rewrite available for the Final Skills Exam.**

**Final Theory Exam:** The final theory exam will take place on June 24th, 2022, at 09:00 a.m. The exam will be 1 hour long and will consist of a combination of multiple choice and fill in the blanks. **There is no rewrite available for the Final Theory Exam.**

## Missed Assessments

Students are required to submit all items of work (including assignments, projects, etc.); to write tests and examinations; and to complete practical assessments on the date assigned by the instructor. Any assessment item, not completed on or by the deadline, will receive a mark of zero (0).

Instructors may, at their discretion, make academic accommodations in the event of a legitimate absence due to extenuating circumstance. Students who require assignment extensions, exam rescheduling, or other types of academic accommodation, in such circumstances, should provide a formal request to the instructor with reasonable advance notice when possible.

Students may be required to present appropriate documentation (see the Documentation Requirements policy for details) when requesting any form of academic accommodation. All requests will be considered on a case-by-case basis and accommodation is not guaranteed.

## Grading

| Letter Grade | Grade Point Value | Accumulated Evaluation Percentage |
|---|---|---|
| **A+** | 4.5 | 90 – 100% |
| **A** | 4.0 | 80 – 89% |
| **B+** | 3.5 | 75 – 79% |
| **B** | 3.0 | 70 – 74% |
| **C+** | 2.5 | 65 – 69% |
| **C** | 2.0 | 60 – 64% |
| **D** | 1.0 | 50 – 59% |
| **F** | 0.0 | 0 – 49% |

## Program Specific Policies

Please review the provided **Network Security Program Policies**. Students are required to adhere to all program specific and general policies to remain in the course and successfully complete the program.

**Attendance Policy**
Regular attendance and punctuality are expected of all students in MITT programs.

**Class Participation**
To facilitate class learning, the instructor reserves the right to assign groups for any group activities.

Students who are disruptive to the classroom learning environment may be asked to leave the class at the instructor's discretion. In case student is requested to leave the classroom, they will be marked as "leaving early", which will contribute to the overall attendance. Please refer to MITT Attendance Policy

## MITT Academic Policy and Regulation

Students are responsible for reviewing and observing all MITT Student Policies while engaged in any form of academic activity with the Institute and should refer to the MITT website for all policy information.

Key policies to refer to in relation to this course include:

- Academic Standards
- Student Behaviour
- Student and MITT Expectations
- Academic Integrity
- Attendance Policy
- Student Discipline

### Academic Integrity

As per the MITT Academic Integrity Policy, academic dishonesty in any form is unacceptable. This policy applies to all courses at MITT and defines all activities and behaviours that might constitute grounds for an academic violation.

MITT expects all students to attend an academic orientation session within their program and to adhere to the principles of academic integrity.

Students found to be in violation of the Academic Integrity Policy will be subject to disciplinary action as defined by the MITT Student Discipline Policy. Refer to both policies for further details.

### Retention of this Outline

Students are advised to retain course outlines for future use in support of applications for employment or transfer of credits.

*Information contained in this course outline is correct at the time of publication. Content of programs and courses can be revised on an ongoing basis to ensure relevance to educational objectives and employment market needs. MITT reserves the right to add, alter, or delete programs, options, practicum, courses, timetables, or campus locations subject to program renewal, sufficient enrolment, and course availability. In the event of extraordinary circumstances beyond MITT's control, the content and/or evaluation in this course outline is subject to change.*