INNCYBER Innovation HUB
Digital transformation, Cyber & IoT

< CYBERSECURITY EXECUTIVE PROGRAM >

2nd Edition

Starting date:

April 13th, 2023

Scientific Coordination
Professor
António Casimiro

Executive Coordination
Professor
Telmo Vieira

Ciências ULisboa

PREMIVALOR Consulting
Your Value Partner

>Objectives and scope

> To provide an overall comprehension of the risks and challenges on organizations resulting from an increasingly digital economy concerning cybersecurity.

> To provide insights from leading experts of the industry, regulators and reference academics concerning the implications of cybersecurity risks in terms of the organizations´ **Business**, **Governance** and **Compliance**.

> This program aims to be the **best international cybersecurity short/medium term course** for executives and decision makers in Europe.

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> To whom this course is addressed

> Members of the **Management Board** of companies/organizations from the private and public sectors

> Members of the **Supervisory Board** of companies/organizations from the private and public sectors

> Members of the **Management Board** and the **Supervisory Board** of **Banks**, **Fintechs**, and **Insurance companies**

> **Directors** and **Decision makers** of organizations on the areas/committees of **Internal Control and Risk**, **Internal Audit, Inspection**, **Compliance and Legal**

> **Armed forces** decision makers

> **Law enforcement** decision makers

> **Certified Public Accountants/Statutory Auditors** (Revisores Oficiais de Contas)

> **Lawyers** on decision making positions

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> Format

> The course will have an **Hybrid format** (the first class and the last 2 classes will be in person @ Faculdade de Ciências da Universidade de Lisboa + the remaining classes will be held online)

> Starting date: **April 13th, 2023**

> 30 hours (12 modules)

> **Tuesdays and Thursdays**, from 16:30 to 17:50 and 18:00 to 19:20

> **Certificate** to be issued by Faculdade de Ciências da Universidade de Lisboa (FCUL) after the completion of the course

> Program

> **MODULE 1:** Macro perspective on cybersecurity

> **MODULE 2:** Introduction to cyber security concepts

> **MODULE 3:** Operational Technology Security (OT)

> **MODULE 4:** Protection of assets and detection of attacks

> **MODULE 5:** Funding Programmes for the Cybersecurity Economy

> **MODULE 6:** Identification of assets and risk concepts

> Program

> **MODULE 7:** Reaction and Recovery

> **MODULE 8:** Cybersecurity Law

> **MODULE 9:** Cybercrime

➢ **MODULE 10:**

- ➢ Economic Evaluation of Cybersecurity Investments
- ➢ Cybersecurity risks and challenges on Banking and Fintech sectors

> **MODULE 11:** Asymmetric Threats - Cyber Threats

> **MODULE 12:** Case studies and Tabletop exercise

> MODULE 1

Macro perspective on cybersecurity (3h)

> The strategic perspective of Cybersecurity at national level - Resilience, sovereignty, and Leadership

> What the C level needs to ask to assess the organization's cybersecurity level

> Major challenges for organizations and citizens

> New technologies leveraged by the pandemic

> The need for a common knowledge concerning cybersecurity

> EU Cybersecurity Strategy and its relationship with the National Cyberspace Security Strategy

> EU Cybersecurity Certification. What is due to occur in Portugal and the impact in the economy

> Cybersecurity incidents in Portugal – The National Cybersecurity Observatory

> Operational Capability to prevent, deter and respond

> New strategic initiatives

> Self-evaluation Quiz

> Instructor

Contra-Almirante António Gameiro Marques

General Director

Gabinete Nacional de Segurança (GNS)

> MODULE 2

Introduction to cyber security concepts (3h)

> Cyber Security definition

> Importance of security at different layers (from physical to information)

> Fundamental information security properties: confidentiality, integrity, availability

> Types of vulnerabilities

> Types of attacks

> Motivations of attackers

> Phases of an attack

> Attack-Vulnerability-Intrusion (AVI) model

> NIST Cybersecurity Framework: Identify, Protect, Detect, Respond, Recover

> Self-evaluation Quiz

> Instructor

Eng. José Alegria

CISO, Head of CyberSecurity & Privacy (DCY)

ALTICE Portugal

> MODULE 3

Operational Technology Security (OT) (3h)

> Cybersecurity OT Overview - Industry 4.0

> OT & IIoT Technology Architecture:

> Industrial Supervisory Control and Data Acquisition (SCADA), Distributed Control Systems (DCS), Industrial Control Systems (ICS), Industrial Internet of Things (IIoT), Cyber-Physical System (CPS)

> Differences between IT and OT

> Industrial Cyber Kill Chain, MITRE ATT&CK

> Cybersecurity Architecture in Industrial Systems

> Defense in Depth concept and Purdue Model, Industrial security standards ISA 62443

> Standards and good practices in Industrial systems

> NIST CSF, NIST 800-82, IEC 62443

> Critical Infrastructures an Essential Services (EU Regulations)

> EU Critical Infrastructures regulations, EU NIS2 directive

> IT-OT Convergence. Industrial SOCs

> Protection of OT & Mitigation measures

> Cyber OT Technology trends, OT Services and Procedures

> Self-evaluation Quiz

> Instructor

Prof. Eng. Javier Jarauta Sanchéz

Head of Cybersecurity Strategic Demand Generation

SIA / Minsait

Coordinator of the Master in Cybersecurity at Universidade Pontificia de Comillas ICAI-ICADE in Madrid

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> MODULE 4

Protection of assets and detection of attacks (3h)

> Access control (Authentication, Authorization, Accounting)

> Network protection (SSL/TLS, VPNs)

> Infrastructure protection (Firewalls, IPS, Antivirus)

> Information protection (backups, DLP tools)

> Penetration testing

> Personnel training

> Intelligence gathering systems / OSINT

> Vulnerability scanners

> Event gathering and monitoring systems (Syslog, NIDS, HIDS)

> Event correlation (SIEMs)

> Self-evaluation Quiz

> Instructor

Eng. Paulo Moniz

Information Security and IT Risk Director

EDP - Energias de Portugal

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> MODULE 5

Funding Programmes for the Cybersecurity Economy (1,5h)

> The European Strategy for the Digital de Decade

> Cybersecurity Policy Context in Europe

> The EU Cybersecurity Market – The road to a Strategic Autonomy

> The Digital and Horizon Europe Programmes and the European Cybersecurity Competence Centre

> European Funding for Cybersecurity - A practical approach

> Self-evaluation Quiz

> Instructor

Dr. Marco Barros Lourenço

Head of Research and Innovation

European Union Agency for Cybersecurity (ENISA)

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> MODULE 6

Identification of assets and risk concepts (1,5 h)

> Information flows and dependencies

> Risk identification

> Risk assessment

> Risk analysis

> Risk management

> Self-evaluation Quiz

> Instructor

Prof.ª Ana Respício

Assistant Professor of Informatics

Faculty of Science of the University of Lisbon

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> MODULE 7

Reaction and Recovery (3h)

> Response plans (legal frameworks)

> Incident management

> Analysis of incident impacts

> Contingency plans

> Disaster recovery

> Business continuity

> Image recovery and communication

> Self-evaluation Quiz

> Instructors

Eng. Marcelo Rodrigues
Cybersecurity & Privacy Director
PwC Portugal

Eng. Pedro Santinhos
Risk Assurance Director
PwC Portugal

> MODULE 8

Cybersecurity Law (1,5h)

> The importance of the legal dimension

> Cybersecurity legal and regulatory framework - main trends

> The legal impacts of a cyber incident

> A strategic approach to cybersecurity regulatory framework (general and sector-specific legislation)

> Self-evaluation Quiz

> Instructor

Dra. Magda Cocco

Head of Practice of Information, Communication & Technology

VdA - Vieira de Almeida

> MODULE 9

Cybercrime (1,5 hours)

> Modus Operandi and terminology of the main cybercrimes

> Incident and Crime: practical aspects of legislation

> From the preparation to the mitigation of cyber-incident: the legal action

> Self-evaluation Quiz

> Instructor

Dr. Rogério Bravo

Chief Inspector of UNC3T - National Unit for Combating Cybercrime and Technological Crime

Portuguese Judiciary Police (PJ)

> MODULE 10

a. Economic Evaluation of Cybersecurity Investments (1,5 h)

> The economic Evaluation of Cybersecurity Investments:

- > The financial model
- > Key assumptions
- > Key economic and financial indicators (KPI):
  - > ALE - Annual Loss Expectancy
  - > ROSI - Return on Security Investment
  - > NPV - Net Present Value
  - > IRR - Internal Rate of Return
  - > NPV.E - Economic Net Present Value
  - > IRR.E - Economic Internal Rate of Return
- > Concept of externalities on cybersecurity

> Self-evaluation Quiz

> Instructor

Prof. Telmo Vieira
Managing Partner
PremiValor Consulting
Certified Public Accountant / Statutory Auditor (CPA)

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> MODULE 10

b. Cybersecurity risks and challenges on Banking and Fintech sector (1,5h)

> Major trends and Cybersecurity concerns in the financial sector, namely in the Banking industry

> Cooperation, Proactivity and Systemic Approaches to Cyber Threats

> Cybersecurity Governance: Engaging the Executive Boards

> Narrowing the Cyber Language GAP between Operational/ Tactical and Executive Boards

> Self-evaluation Quiz

> Instructor

Eng. Pedro Martins da Silva
Head Of Unit - Cybersecurity
Banco de Portugal

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> MODULE 11

Asymmetric Threats - Cyber Threats (3h)

> Asymmetric conflicts;
> Cyber war;
> Asymmetric threats;
> Asymmetric cyber attacks;
> Asymmetric cyber attacks - examples:
    > Syrian Electronic Army
        > DDOS
    > Stuxnet
    > Estonia
    > Ukrainian elections
> Cost vs impact;
> Who is the enemy;
> Who is the target;
> Vectors;
> What to do;
> Attack strength;
> Case study;
> Self-evaluation quiz.

> Instructor

Major José Ferreira

Cyber Defense Head

Portuguese Air Force

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> MODULE 12

Case studies and Tabletop exercise (3h)

> Target and MAERSK case studies – to be first discussed by students and then in class with the professor/lecturer as a way to cement the knowledge obtained throughout the course

> Tabletop exercise to stimulate leaders in the decision associated with a crisis originating in cyberspace

> Final remarks on the program

> Instructor

Contra-Almirante António Gameiro Marques

General Director

Gabinete Nacional de Segurança (GNS)

> **NOTE:** The tabletop exercise is a meeting to discuss a simulated emergency. Participants review and discuss the actions they would take in a specific emergency, testing their emergency plan in an informal, low-stress environment. Tabletop exercise is intended to clarify roles and responsibilities and to identify additional mitigation and preparedness needs. The exercise should result in action plans for continued improvement of the emergency plan.

> Pricing

> 1.475 € *

> Discounts (non-cumulative):

> **Early bird: 15%** for participants that register until January 31st, 2023

> **Early bird: 10%** for participants that register between February 1st, 2023 and February 28th, 2023

> **20%** for INNCYBER INNOVATION HUB partner companies/organizations and individual participants from universities and research centers

> **20%** for companies that participate in the course with 2 or more members

LIMITED SPOTS AVAILABLE

Having into account the characteristics of the course contents and the positions occupied by the lecturers of the program, candidates are subject to curriculum evaluation and a *"Fit & Proper"* process before participation approval on the course.

* 23% VAT to be added (if applicable)

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For additional information, please feel free to contact us:

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We are available to book a conference call for further clarification on the platforms:

- Zoom
- Google Meet
- MS TEAMS

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