COMILLAS
UNIVERSIDAD PONTIFICIA
ICAI ICADE CIHS

GUÍA DOCENTE
2024 - 2025

FICHA TÉCNICA DE LA ASIGNATURA

Datos de la asignatura	
Nombre completo	Cyberspace and Cybersecurity
Código	E000013485
Nivel	Master
Cuatrimestre	Semestral
Créditos	5,0 ECTS
Carácter	Optativa
Departamento / Área	Departamento de Relaciones Internacionales
Responsable	Ileana Daniela Serban
Descriptor	Cyber-challenges and narrative information management track

Datos del profesorado	
Profesor	
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DATOS ESPECÍFICOS DE LA ASIGNATURA

Contextualización de la asignatura

Aportación al perfil profesional de la titulación

Cyber-challenges and narrative information management track

Competencias - Objetivos

BLOQUES TEMÁTICOS Y CONTENIDOS

Contenidos – Bloques Temáticos

1, Introduction to Cyberspace and Cybersecurity

- Origins and evolution of cyberspace as a concept and domain of operation
- Key principles and definitions of cybersecurity

2, Cyber Threats and Vulnerabilities

- Types of threats
- Actors in cyberspace

3, Geopolitics of Cyberspace

- Role of cybersecurity in international relations
- Case studies of major cyber incidents and their geopolitical implications

4, Cybersecurity Strategies and Policy

- International and regional frameworks (e.g., EU, NATO)
- National cybersecurity strategies and the role of public-private partnerships

5, Artificial Intelligence and Cybersecurity

- AI in cyber defence: threat detection, incident response, and predictive analytics
- Ethical and privacy concerns surrounding AI in cybersecurity

6, Defence and Response Mechanisms in Cyberspace

- Technical and strategic measures for threat mitigation
- Analysis of current defence strategies

7, Cybersecurity and Society

- Impacts of cybersecurity on personal privacy, civil liberties, and societal norms
- Ethical considerations and the role of cybersecurity professionals

METODOLOGÍA DOCENTE

Aspectos metodológicos generales de la asignatura

Lectures and Readings: Core concepts and frameworks will be introduced during the lectures, while preparatory readings and materials will be shared in advance.

Case Study Analysis: Students apply theoretical knowledge to real-world case studies in cybersecurity, fostering critical thinking.

Group Discussions: In-class debates on emerging threats, international policies, and ethical concerns in cybersecurity.

Simulation Exercises: Hands-on simulations for incident response planning, policy drafting, and AI integration in threat detection.

EVALUACIÓN Y CRITERIOS DE CALIFICACIÓN

Evaluation	(%)
Final project	50%
Participation	20%
In-class exercises	30%

BIBLIOGRAFÍA Y RECURSOS

Bibliografía Básica

- Arunesh, S., Nguyen, T. H., Kar, D. 2015. "From physical security to cybersecurity", *Journal of Cybersecurity*, *1*(1), 19–35.
- Beskow, D. A., Carley, K. M. 2019. *Social cybersecurity: an emerging national security requirement, military review*, March–April 2019 (https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/Mar-Apr-2019/117-Cybersecurity/b/).
- Graham, M., Dutton, W. H. (eds). 2014. *Society and the Internet: How Networks of Information and Communication are Changing Our Lives*, Oxford University Press, Oxford.
- Goolsby, R. 2020. "Developing a new approach to cyber diplomacy". *Future Force*, *6*(2), 8–15.
- Henriksen, A. 2019. "The end of the road for the UN GGE process: The future regulation of cyberspace", *Journal of Cybersecurity*, *5*(1), 1-9.
- Howard, P.N., Kollanyi, B. 2016. "Bots, #strongerin, and #brexit: computational propaganda during the UK-EU referendum". Available at *SSRN 2798311*.
- Howard, P. N., Woolley, S., Calo, R. 2018. "Algorithms, bots, and political communication in the US 2016 election: the challenge of automated political communication for election law and administration". *J Inform Tech Polit 15*(2), 81–93.
- Karpf, D. 2012. "Social science research methods in internet time", *Information, Communication & Society*, *15*(5), 639–661.
- Lucas, E., Nimmo, B. 2015. "Information warfare: what is it and how to win it". CEPA Infowar Paper 1.
- Romanosky, S. 2016. "Examining the costs and causes of cyber incidents", *Journal of Cybersecurity*, *2*(2), 121–135.