EMERGING TECHNOLOGIES AND INTERNATIONAL RELATIONS

Professor: **Carl Rihan**
Language of instruction: **English**
Number of hours of class: **12h**

Objective of the Course

Technology has become the main arena in which states compete, cooperate and coerce. This course gives students the literacy to understand how the technologies reshaping world politics actually work (data, cyber operations, algorithms, connected devices, cryptocurrencies and artificial intelligence) and the analytical tools to judge what each of them does to the balance of power, to security and to human rights.

It is a 360-degree tour rather than a technical descent: no mathematics and no programming. By the end of the course, students can read cybersecurity advisory or a regulation with confidence, explain why cables, chips and data centers have become contested sites of power, and argue a reasoned position on how emerging technologies could be steered further towards peaceful means.

Summary

Whoever controls the undersea cables, the cloud and the most advanced chips decides whose communications can be read and whose economies can be cut off. State-backed hackers lurk inside power grids and ports. Algorithms help decide who gets bail, benefits, or a visa. Digital currencies move money around sanctions. Yet students of world politics are rarely shown how these systems work, and students of computing are rarely asked what these systems do to power and rights.

This course covers six domains: data and big data, cybersecurity, algorithmic governance, the Internet of Things, cryptocurrencies and the dark web, and artificial intelligence. Each is explored through three lenses: how the technology works, what it does to international order and security, and what it costs ethically. Along the way, students meet the milestones of the field, from Turing's 1950 "imitation game" and the Stuxnet worm to the first post-quantum encryption standards and the United Nations' Global Digital Compact, and dissect real cases: Pegasus spyware, the Mirai botnet, a welfare algorithm that wrongly accused thousands of families.

Each of the ten one-hour sessions pairs a real case with two readings, all free online. No prior knowledge is required, only curiosity. The course closes with a simulated

global digital summit, in which students negotiate, as delegations of states, firms and civil society, a joint declaration on the technology of their choice.

Professor's Biography



Carl Rihan is the founder and lead consultant of *Septentrion Insights*, an economic intelligence, business analytics and data engineering firm based in Belgium. He is an associate of the German Institute of Global and Area Studies, specializing in the economic and quantitative determinants of systemic political risk. Carl teaches business management at Ecole Jeannine Manuel, economics and data science at the Catholic University of Lille, and international security at Sciences Po Lille. He holds a Ph.D. from Sciences Po Paris.