

C3IS SPECIALIZATION COURSE:

Infrastructures. Management in Biomedical Installations (IMBI)

20 hours 5-WEEK FORMAT: 4-6 p.m. (MADRID TIME)

10 Sessions (Wednesday and Friday every week) // 2 hours each online session

COURSES:

Speaker	Topic	Time [h]	Code
M ^a PAULA DE TOLEDO HERAS	Clinical information infrastructures	4	1.A
ANTONIO J. REVILLA TORREJÓN	Innovative organizations: fundamentals and characteristics	4	1.B
FRANCISCO AGUADO	Process optimization in hospitals	4	2.B
IGNACIO PEREZ	Management of electromedical systems. Project Management Professional (PMP)	2	2.C
FERNANDO DURBAN	Energy Efficiency and Conservation in Hospitals	2	2.D
ANTONIO GARCÍA BLANCO	Hospital Services and Management	2	2.E
FERNANDO RGUEZ CABEZUDO	Lean projects applied to hospitals	2	2.F

TOTAL: 20 hours¹

DATES:

	SUN	MON	TUE	WED	THU	FRI	SAT
M A Y				10 2B	11	12 1B	13
	14	15	16	17 2B	18	19 2C	20
	21	22	23	24 1A	25	26 1B	27
	28	29	30	31 1A	1	2 2D	3
	J U N E	4	5	6	7 2E	8	9 2F

¹ Courses 1A and 1B have been confirmed in time and date. Courses 2B-2F can permutate in dates depending on the lecturers availability, yet the total course's dates will not be affected.

COURSE SYLLABUS:

Clinical information infrastructures (1A)

In this short course we will describe: i) the key information systems in a hospital: HIS, LIS, RIS, ii) the main standards for the exchange of clinical information among systems (HL7, LOINC, ICD), iii) the information infrastructures to support e-health services, and iv) infrastructures for sharing of healthcare data among different organizations (Health Information Exchanges).

Innovative organizations: fundamentals and characteristics (1B)

This session will cover key concepts, theories, and techniques in innovation management, and will discuss their application to the successful development and launch of innovative technologies, with a focus on the healthcare sector. It will address the different types of innovations and their implications, the challenges to the funding of the innovation process (from basic research to commercial application), the determinants of the adoption and diffusion of new technologies, and the use of Intellectual Property Rights (IPRs) as instruments to protect innovations.

Process optimization in hospitals (2B)

In the health sector, the service is usually produced and consumed at the same time, so it does not allow for quality control and its evaluation only provides information to improve subsequent processes. In these cases, the problem lies in establishing beforehand which is the most appropriate process and what is the expected result in each specific case. In these cases, the process management methodology, as part of the total quality models, provides a vision and tools with which the workflow can be improved and redesigned to make it more efficient and adapted to the needs of customers. This process optimization session will cover process maps and diagrams, as well as process measurement, redesign and improvement through process modeling software.

Management of electromedical systems. Project Management Professional (PMP) (2C)

Project Management involves the planning and organization of a company's resources to carry out specific tasks that need to be completed for achieving a particular goal. Specifically, Medical Devices Procurement Projects are a complex duty to develop. MD Projects or MD life cycle management Projects, are usually quite wide in scope, and also require a proper management of many communication channels between different stakeholders involved. MD Project Management requires a type of professional with a cross-functional profile and a certain set of skills to manage numerous activities, personnel, subcontractors, suppliers and other stakeholders. Therefore, a proper Project Management culture and methodology helps to organize, plan and follow up Projects. Organizations also need to ensure that their resources understand and learn the concepts and methodologies of managing their Projects effectively. Through this Project Management session, we will try to share the main bases for developing a Project, with special reference to medical equipment / devices Projects.

Energy Efficiency and Conservation in Hospitals (2D)

Hospitals are complicated to maintain because they require high indoor air environmental quality (IAQ) standards, especially in operating rooms. This course will cover the special hospital installations, with special attention paid to conservation issues: main problems and solutions. Improving energy efficiency in hospitals is critical to reducing costs and carbon emissions. But it can also be challenging. Modern medical facilities depend on energy resources to treat patients, and any reduction in building performance can compromise their health and safety. The course will cover the main issues on hospitals energy efficiency.

Hospital Services and Management (2E)

General Services for non-clinicians, is a course included in foundation courses. It is a course where students will learn the structure, organizational chart and functioning of a health service, hospital and health center, and how general services are organized. After the session students will learn the competencies of the Managing Director and his team to deal with tasks such as cleaning, food, transport, laundry and how to manage them properly.

Lean projects applied to hospitals (2F)

Lean healthcare is the application of principles of Toyota's model ideas in healthcare facilities to minimize waste in every process, procedure, and task through an ongoing system of improvement. Using lean principles, all members of the organization, from clinicians to operations and administration staff, continually strive to identify areas of waste and eliminate anything that does not add value for patients. By applying lean principles and methodology in some example of hospitals, we can review processes and systems through the lens of the eight wastes, organizations can potentially improve: waiting / minimize inventory / eradicate defects / decrease motion of resources / prevent injuries / minimizing overproduction / remove waste from Over-Processing / untapped human potential.