COMILLAS
UNIVERSIDAD PONTIFICIA
ICAI ICADE CIHS

Syllabus
2025 - 2026

TECHNICAL SHEET OF THE SUBJECT

Data of the subject	
Subject name	Operations Management
Subject code	E000006868
Mainprogram	Bachelor's Degree in Business Administration and Management
Involved programs	Grado en Administración y Dirección de Empresas (E-2) [Second year] Grado en Administración y Dirección de Empresas (E-2) [Third year] Grado en Administración y Dirección de Empresas con Mención en Internacional (E-4) [Third year] Grado en Administración y Dirección de Empresas (E-2) - en inglés [Second year]
Level	Reglada Grado Europeo
Quarter	Semestral
Credits	6,0 ECTS
Type	Optativa (Grado)
Department	Departamento de Gestión Empresarial
Coordinator	Manuel Morales /Lucía Barcos
Schedule	E2 groups: two 2-hour sessions per week in the afternoons - E4 groups: Tuesdays and Thursdays 12:30-14:30
Office hours	Request appointment by e-mail
Course overview	Knowledge and understanding of the essential factors in the process of generating goods and their transfer to customers. More specifically, production processes and their differences are studied, the management of production systems based on the type of service and product, the design of production systems, the planning of production and logistics activities, the generation of needs in the production processes, inventory management, product quality management and logistics service. Deepening in concepts about product and process design, the organization of tasks, the tools and mathematical algorithms used in the planning and programming of operations, the analysis, evaluation and quality management of the operations systems, the measurement of the performance of operations, productivity context of operations and management of supply and distribution networks.

Teacher Information

Teacher	
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SPECIFIC DATA OF THE SUBJECT

Contextualization of the subject

Contribution to the professional profile of the degree

This course will help the student to acquire the management capabilities related to quality, productivity, flexibility, planning and task management.

As operations are related to many aspects of the Organization, from product design to delivery to the customer, knowledge on this domain will provide the student with a wide vision about the impact of the decisions in the value chain, including the ethical dimension of these decisions

Prerequisites

Basic knowledge of Statistics and Business Organization.

Competencies - Objectives

Competences

GENERALES

CG2	Capacidad de gestionar información y datos provenientes de fuentes diversas para hacer un análisis crítico y un correcto diagnóstico de la realidad empresarial.	
	RA1	A partir de la información y datos obtenidos de fuentes diversas, identifica problemas empresariales determinando, el origen/las causas de losmismos.
	RA2	Es capaz de realizar dicho proceso de diagnóstico dando y recibiendo feed-back de forma asertiva, que ayude a incrementar la integración y la confianza en los equipos de trabajo

CG3	Capacidad para la resolución de problemas y toma de decisiones empresariales seleccionando y aplicando adecuadamente las técnicas pertinentes de análisis de datos	
	RA1	Identifica, captura y analiza de forma eficiente datos de fuentes primarias y secundarias que sean necesarios para el análisis del entorno competitivo de la empresa
	RA2	Aplica los conceptos matemáticos y técnicas cuantitativas y cualitativas de análisis de datos necesarios para la resolución de problemas empresariales y apoyar el diagnóstico y toma de decisiones en la empresa.
CG5	Desarrollar habilidades interpersonales que refuercen el aprendizaje de un trabajo autónomo, bien organizado y planificado y que esté orientado a la acción y a la calidad.	
	RA1	Desarrolla habilidades académicas, interpersonales e instrumentales necesarias para la investigación independiente, relacionando los conocimientos adquiridos con las distintas aplicaciones profesionales o prácticas reales
CG8	CG8 Reforzar la capacidad de gestión del cambio que apoye la transformación digital de la sociedad contemporánea con Tecnologías de la Sociedad de la Información, nuevas formas de organización del trabajo y nuevos modelos de negocio.	
	RA1	Identifica necesidades y recursos tecnológicos a la hora de resolver problemas conceptuales y técnicos a través de medios digitales
	RA2	Se comunica eficazmente y de manera proactiva en entornos digitales, compartiendo recursos a través de herramientas en línea, colaborando con otros a través de herramientas digitales, e interactuando en comunidades y redes profesionales
ESPECÍFICAS DE OPTATIVIDAD		
CEOPT1(PL)	Conocimiento y comprensión de la planificación y dirección de las operaciones y de la gestión de proyectos	
	RA1	Conoce las herramientas que se utilizan en el Diseño las operaciones para la toma de decisiones sobre la localización, los procesos, la capacidad y la calidad.
	RA2	Conoce los mecanismos para lograr una ventaja competitiva desde las operaciones y lograr la satisfacción de los clientes.
CEOPT2(PL)	Conocimiento y comprensión de la gestión de la cadena de suministro	
	RA1	Saber coordinar las actividades de proveedores y clientes dentro de la cadena de suministro, consciente de su repercusión en la eficacia y eficiencia.
	RA2	Saber cómo emplear las tecnologías de información y comunicación para la mejora de la calidad del servicio en la transferencia de productos.
	RA3	Incorporar en la gestión la dimensión ética de la cadena de suministro.

THEMATIC BLOCKS AND CONTENTS

Contents - Thematic Blocks

Course Contents
PART 1 – STRATEGY OF OPERATIONS MANAGEMENT
Lesson 1: Operations and Productivity. Operations Strategy
Lesson 2: Project Management
Lesson 3: Forecasting
PART 2: DESIGNING OPERATIONS
Lesson 4: Design of Goods and Services
Lesson 5: Managing Quality
Lesson 6: Location Strategies
Lesson 7: Process and Layout Strategies
Lesson 8: Capacity Planning
PART 3: MANAGING OPERATIONS
Lesson 9: Inventory Management
Lesson 10: Production Planning
Lesson 11: Supply Chain Management. Sustainability and Ethics
Lesson 12: Just In Time and Lean Production Systems

TEACHING METHODOLOGY

General methodological aspects of the subject

The course follows a practical approach, focussed on the student, to promote his / her autonomy and active participation during the learning process with the aim of helping him / her to develop the necessary competences for the professional life.

As a general rule, the development of the activities in this course will encourage a responsible and critical use of generative artificial intelligence tools such as ChatGPT. Following the classification proposed by Perkins et al. (2024), a level 3 integration is adopted, which means that students may use these tools as support in generating ideas, structuring their assignments, exploring approaches and

alternatives, and improving the formal quality of their writing (correction of wording, grammar, and style). In all cases, it is essential to demonstrate a process of review, critical analysis, and personal contribution, as well as to declare transparently the use that has been made of these tools, specifying in which phases and for what purpose they were employed. In this sense, the use of AI should serve as a complement that stimulates reflection, fosters creativity, and facilitates a deeper engagement with the content, but never as a substitute for analytical ability, independent reasoning, or the academic argumentation that characterizes university learning.

The following activities will be developed in order to develop the concepts and competences above mentioned.

In-class Methodology: Activities

1. **Master Classes** where the professor will present the main contents in a clear, structured and motivating manner, in general supported with audiovisual resources. Main aspects will be outlined to support the student learning process, as well as suggestions from students are encouraged and considered.
2. **Practice classes.** Where the professor explains the basic notions, with the students participations who discuss and debate some of the points or nuances in order to optimize the contents comprehension. It will include dynamic presentations and regulated or spontaneous participation of students through diverse activities.
3. **Analysis and resolution of cases** proposed by the professor, after a short reading, material prepared on purpose or any other data or information where students could apply the acquired knowledge. In general, cases will be based on real situations and problems. Teamwork will be encouraged. Business analytics techniques might be used, if required.
4. **Search for documentation and data on Web.** The main goal is that students can identify real applications of the lessons explained in class.
5. **Public presentations of specific issues or cases.** Presentation and defense of cases in front of the class and professor. It could be done individually or in teams. Aspects to be considered during evaluation: conceptual organization, knowledge of the related topic, clear exposition, respect and coherence in all phases, and, in case of a collective assignment, active collaboration of all team members.

Non-Presential Methodology: Activities

1. **Individual study and exploring in more detail on the documentation** that the student will do to comprehend, rework and assimilate the scientific content with the goal of a practical application. Individual reading of texts and materials (books, reviews, articles, press releases, Internet documents, cases, etc.) related with the course. All materials and guides are available on the course website.
2. **Academic Tutorial** individual or in groups in order to solve problems or doubts that could have arisen during the learning process.
3. **Monographic research**. A cooperative learning procedure that begins with the assignment of students to teams and the setting of a task that requires researching, sharing information, and resources among team members in order to achieve the common goal. Individual objectives are achieved if and only if others achieve theirs, which creates a high degree of personal interdependence for achieving the goals.
4. **Organized reading**. Reading and analysis of relevant texts with various tasks that assess reading comprehension individually or in groups

SUMMARY STUDENT WORKING HOURS

CLASSROOM HOURS		
Lecciones de carácter expositivo	Exposición pública de temas o trabajos	Ejercicios y resolución de casos y de problemas
33.00	4.00	23.00
NON-PRESENTIAL HOURS		
Ejercicios y resolución de casos y de problemas	Estudio individual y/o en grupo y lectura organizada	Trabajos monográficos y de investigación, individuales o colectivos

30.00	30.00	30.00
		ECTS CREDITS: 6,0 (150,00 hours)

EVALUATION AND CRITERIA

The use of AI to produce full assignments or substantial parts thereof, without proper citation of the source or tool used, or without explicit permission in the assignment instructions, will be considered plagiarism and therefore subject to the University's General Regulations.

Evaluation activities	Evaluation criteria	Weight
Final Exam a. Exam Theory = 50% b. Exam Cases and Exercises = 50%	**Capabilities:** Comprehension, Relational, Exposition Reasoning Final Exam minimum qualification required= 5.00 points (from a max. of 10.00).	50
Control Tests during the semester	Classes follow up. Concept understanding	25
Group project: practice applications of competences Minimum qualification required= 5.00 points (from a max. of 10.00) A misuse or fraudulent use of generative artificial intelligence (such as ChatGPT) will be cause for sanction. See NOTE bellow	Teamwork and practice application od theory	15
Attendance and **Active Participation** in class **Attitude** on individual work	Participation Proactivity	10

Ratings

EVALUATION IN EXTRA EXAM

Students failing the ordinary exams will have the opportunity of an extraordinary exam, whose grade will consist on:

1. Exam Theory = 50%
2. Exam Cases and Exercises = 50%

In this case, the course grade will be this exam grade.

Extra Exam minimum qualification required= 5.00 points (from a max. of 10.00).

NOTE ON THE MISUSE OF GENERATIVE ARTIFICIAL INTELLIGENCE IN ALL ASSESSMENT ACTIVITIES

The improper, uncritical, or abusive use of generative artificial intelligence tools, without providing review, personal reflection, or academic justification, may be considered a violation or fraud within the assessment system. Such conduct will negatively affect the grade and may lead to disciplinary action. See also "General methodological aspects of the subject" subsection.

It is hereby reminded that, according to the University's General Regulations, Article 168.2.e, it is considered a serious offense to engage in "actions aimed at falsifying or defrauding the systems of academic performance assessment." The consequences of such conduct shall be "temporary expulsion of up to three months or the prohibition to sit examinations in the next examination period following the imposition of the sanction, in one or several courses in which the student is enrolled, [...] in addition to receiving a failing grade (0) in the respective course, [...] and the prohibition to sit examinations for that course the following examination period."

BIBLIOGRAPHY AND RESOURCES

Materials and Resources

The professor will provide the necessary material for the course through Moodle:

- Presentations
- Collections of exercises
- Cases for discussion
- Quizzes
- Videos and recordings
- Assignments for individual or group work

Basic Bibliography

HEIZER J.; RENDER, B., MUNSON, C. (2023). Operations Management: Sustainability and Supply Chain Management (14th Edition). Pearson

JACOBS, F.R.; , CHASE, R.B. (2021). Operations and Supply Chain Management.(16th Edition). McGraw Hill.

KRAJEWSKI, L.J.; MALHOTRA, M.K.; RITZMAN, L.P. (2018). Operations Management: Processes and Supply Chains (12th Edition). Pearson.

Complementary Bibliography

LEPORATI, M., MARTUL VÁZQUEZ, L., MORALES CONTRERAS, M.F. (2021). *GLOBAL SUPPLY CHAIN. An integrative View.* Ed. Thomson Reuters, Aranzadi.

GOLDRATT, E.M. & COX, J.: *The Goal: a Process of Ongoing Improvement*, North River Press.