



# UNIVERSITÀ DEGLI STUDI DI PALERMO

|                                     |  |
|-------------------------------------|--|
| <b>DEPARTMENT</b>                   | Ingegneria   |
| <b>ACADEMIC YEAR</b>                | 2022/2023  |
| <b>MASTER'S DEGREE (MSC)</b>        | MANAGEMENT ENGINEERING   |
| <b>SUBJECT</b>                      | HEALTHCARE OPERATIONS MANAGEMENT   |
| <b>TYPE OF EDUCATIONAL ACTIVITY</b> | B  |
| <b>AMBIT</b>                        | 50368-Ingegneria gestionale  |
| <b>CODE</b>                         | 22321  |
| <b>SCIENTIFIC SECTOR(S)</b>         | ING-IND/35   |
| <b>HEAD PROFESSOR(S)</b>            | MAZZOLA ERICA      Professore Associato      Univ. di PALERMO  |
| <b>OTHER PROFESSOR(S)</b>           |  |
| <b>CREDITS</b>                      | 6  |
| <b>INDIVIDUAL STUDY (Hrs)</b>       | 96   |
| <b>COURSE ACTIVITY (Hrs)</b>        | 54   |
| <b>PROPAEDEUTICAL SUBJECTS</b>      |  |
| <b>MUTUALIZATION</b>                | HEALTHCARE OPERATIONS MANAGEMENT - Corso: INGEGNERIA BIOMEDICA<br>HEALTHCARE OPERATIONS MANAGEMENT - Corso: BIOMEDICAL ENGINEERING |
| <b>YEAR</b>                         | 2  |
| <b>TERM (SEMESTER)</b>              | 1° semester  |
| <b>ATTENDANCE</b>                   | Not mandatory  |
| <b>EVALUATION</b>                   | Out of 30  |
| <b>TEACHER OFFICE HOURS</b>         | <b>MAZZOLA ERICA</b><br>Friday      09:00    12:00   |

DOCENTE: Prof.ssa ERICA MAZZOLA

|                               |   |
|-------------------------------|---|
| <b>PREREQUISITES</b>          | Basic knowledge of management of organisations.   |
| <b>LEARNING OUTCOMES</b>      | <p><b>Knowledge</b><br/>The student will develop knowledge and clear understanding of the key issues related to the operations that healthcare systems are facing nowadays. She/he will explore the challenges and opportunities for improving healthcare operations and will learn about the design of healthcare processes and the application of process improvement methods in healthcare. The student will develop an appreciation for the management of the healthcare supply chain and will develop knowledge about the quality management and the management control in the healthcare system.</p> <p><b>Comprehension and ability to apply knowledge</b><br/>The student will acquire knowledge and methodologies to analyze and solve problems related to the operations management of healthcare systems and organizations. The student will be able to conduct detailed analyses of healthcare systems, to design, manage and assess the processes, the organizational units and the quality performances of healthcare systems and organizations, to evaluate the most relevant technologies and innovations in the healthcare system.</p> <p><b>Making judgments</b><br/>The student will acquire the ability to autonomously analyze the management of operations in healthcare. In particular, he/she will be able to make judgments on the effectiveness, the efficiency and the sustainability of the processes in healthcare systems and organizations.</p> <p><b>Communication skills</b><br/>The student will be able to communicate with competence and language skills all the issues related to the management of healthcare systems in highly specialized contexts.</p> <p><b>Learning ability</b><br/>The student will be able to autonomously face the issues related to the operations management in healthcare, to deepen the knowledge on specific topics in the field, to put in practice such knowledge and competences in professional knowledge intensive contexts.</p>   |
| <b>ASSESSMENT METHODS</b>     | <p>The assessment of knowledge, competences, and applicative capabilities consists of a project group (40%) and an oral exam (60%).<br/>The student assessment is as follows:</p> <p><b>Excellent 30-30 cum laude.</b> The student shows excellent knowledge of the topics of the course, excellent language and communication skills, excellent ability to analyze the issues related to healthcare operations management, excellent ability to understand real arguments in the settings of the course, excellent ability to connect the topics among them and to develop critical analysis in the field of healthcare operations management.</p> <p><b>Very good 26-29.</b> The student shows very good knowledge of the topics of the course, very good language and communication skills, very good ability to analyze the issues related to healthcare operations management, very good ability to understand real arguments in the settings of the course, very good ability to connect the topics among them and to develop critical analysis in the field of healthcare operations management.</p> <p><b>Good 24-25.</b> The student shows good knowledge of the topics of the course, good language and communication skills, good ability to analyze the issues related to healthcare operations management, good ability to understand real arguments in the settings of the course, good ability to connect the topics among them and to develop critical analysis in the field of healthcare operations management.</p> <p><b>Satisfactory 21-23.</b> The student shows satisfactory knowledge of the topics of the course, satisfactory language and communication skills, satisfactory ability to analyze the issues related to healthcare operations management, satisfactory ability to understand real arguments in the settings of the course, satisfactory ability to connect the topics among them and to develop critical analysis in the field of healthcare operations management.</p> <p><b>Sufficient 18-20.</b> The student shows sufficient knowledge of the topics of the course, sufficient language and communication skills, sufficient ability to analyze the issues related to healthcare operations management. The student does not show the ability to understand real arguments in the settings of the course, the ability to connect the topics among them and to develop critical analysis in the field of healthcare operations management.</p> <p><b>Insufficient.</b> The student show he/she has not reached the minimum knowledge of the topics of the course and shows not satisfactory language and communication skills. The student also shows he/she has not reached a sufficient ability to analyze the issues related to healthcare operations management.</p> <p>The exam and the related evaluation will be the same for non-attending students.</p> |
| <b>EDUCATIONAL OBJECTIVES</b> | At the end of the course, the student will acquire knowledge and methodologies related to the management of healthcare operations. In particular, she/he will   |

|                               |   |
|-------------------------------|---|
|                               | learn how healthcare processes are designed and modeled, how the management control is applied in healthcare companies, and how the quality of healthcare processes can be analyzed and improved. She/he will also acquire knowledge about how to manage a supply chain in the healthcare sector. |
| <b>TEACHING METHODS</b>       | Lectures, case studies analysis and workshops with experts.   |
| <b>SUGGESTED BIBLIOGRAPHY</b> | Healthcare operations management / Daniel B. McLaughlin, John R. Olson. - 3rd ed.. - Chicago (Ill.) Washington (D.C.) : Health Administration Press : Association of University Programs in Health Administration, 2017 (ISBN 978-1-56793-444-1).   |

## SYLLABUS

| <b>Hrs</b> | <b>Frontal teaching</b>  |
|------------|--|
| 2          | Course introduction and project group presentation                 |
| 4          | Process design - Process modelling in healthcare                   |
| 4          | Process design -Process analysis in Healthcare                     |
| 6          | Process design - Scheduling and capacity management                |
| 6          | Quality management - Quality management in healthcare              |
| 6          | Quality management - Lean Management in Healthcare                 |
| 6          | Quality management - Six Sigma in Healthcare                       |
| 4          | Supply Chain Management - Healthcare Supply Chain                  |
| 4          | Supply Chain Management - Inventory Management                     |
| 4          | Supply Chain Management - Inventory Management (How much to order) |
| 4          | Supply Chain Management - Inventory Management (When to order)     |
| 4          | Supply Chain Management - Demand Forecasting                       |