

Inter-faculty programme

# **Economia - Medicina e Chirurgia “A. Gemelli”**

2 years Master Degree Programme in

## **Service Management** LM-77

Profile Healthcare Management (HeMa)



## **Student guidebook**

A.Y. 2020/2021

Rome



UNIVERSITÀ  
CATTOLICA  
del Sacro Cuore

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## **THE HEALTHCARE MANAGEMENT PROGRAM**

The Healthcare Management (HeMa) program offered within the 2-years Laurea Magistrale in Management dei Servizi (Graduate degree in Service Management), is intended for students interested in pursuing a career in the healthcare sector. The academic program for this course explores the complex problems that healthcare professionals face on a global scale and prepares graduates for careers in both public and private organizations. The curriculum has been designed with special attention to balance academic content across the three core areas of study: economics, management and statistics.

To ensure that all aspects of the HeMa program are infused with a global perspective, responsibility for the planning, instruction and management of all courses are shared between a resident faculty member and a visiting professor from abroad. This team-teaching model offers students the opportunity to learn in a truly international, multidisciplinary and dynamic environment. The program is further characterized by the faculty's choice to use case studies as a way to explore the field without leaving the classroom. By hand-selecting a variety of diverse and international case studies, the faculty is able to introduce students to a broad range of practical management issues in healthcare organizations across the globe.

Università Cattolica will provide graduates with a set of tools to use when facing complex problems in the healthcare field from both an organizational and ethical perspective. Faculty members will help students to understand the nature of healthcare as a business, public service and basic human right. HeMa students will have the fortune to be studying at a prestigious University that – in addition to having a strong reputation in research and education - holds a strong set of values that considers the integrated and balanced development of each community and of each citizen at the center of the healthcare system.

### **Main Learning Objectives**

Students enrolled in the HeMa program will acquire knowledge about:

- managing quality and operations, human resources and technological innovation in healthcare organizations
- using accounting information to take economic decisions
- interpreting the evolution of healthcare spending and the functioning of healthcare markets
- using the most advanced methodologies in Health Technology Assessment
- using cutting-edge statistical and econometric tools for analyzing economic and epidemiological data

Students will apply this knowledge to discuss practical cases during their classes and to participate actively to the workshops and seminars that will be organized throughout the year.

### **Career opportunities**

The program offers knowledge, skills and competencies particularly valuable to student interested in pursuing careers as production manager, management accountant, HR officer, consultant in organizations such as:

- Healthcare providers like hospitals, nursing homes and local health authorities
- Companies supplying medical equipment and devices, pharmaceuticals and biotechnologies
- Governmental agencies in charge of regulating the healthcare system
- Insurance companies
- Consulting companies

## **Important considerations**

***High social and economic impact.*** Healthcare is an increasingly important sector in world economies, absorbing growing shares of GDP. It influences the quality of life of all citizens. In addition, it is characterized by a fast paced growing technological innovation.

***Growing career opportunities.*** The healthcare sector is ever evolving. Understanding and anticipating future challenges will be key to guarantee sustainability. This requires strong management competencies and skills.

***Leading institution.*** The Università Cattolica del Sacro Cuore has invested extensively in the area of healthcare management in the past fifteen years. The Post-Graduate School of Health Economics and Management (ALTEMS) and specific research centers, like the Center for Healthcare Management (CERISMAS), are active in academic research, consultancy, and executive education.

***On-campus teaching hospital.*** The Healthcare Management program benefits from a partnership between the School of Economics and the School of Medicine and Surgery, as well as the close relationship with the Policlinico 'Agostino Gemelli', one of the largest hospitals in Italy. This on-campus teaching hospital is a place where students can experience in practice what they have discussed during their classes.

## ACADEMIC CALENDAR

Fall semester	
September 14 <sup>th</sup> 2020	Classes start
October 26 <sup>th</sup> - 30 <sup>th</sup> 2020	Intermediate exams
November 1 <sup>st</sup> 2020	Classes suspended (All Saints Day – national holiday)
November 2 <sup>nd</sup> – 6 <sup>th</sup> 2020	Graduation session a. y.2019/2020
December 8 <sup>th</sup> 2020	Classes suspended (Immaculate Conception – national holiday)
December 9 <sup>th</sup> -11 <sup>th</sup> 2020	Extraordinary session of December a.y. 2019/2020
December 11 <sup>th</sup> 2020	End of classes Fall semester
December 14 <sup>th</sup> -23 <sup>rd</sup> 2020	Extra week for rescheduled lectures
December 24 <sup>th</sup> 2020- January 6 <sup>th</sup> 2020	Classes suspended - Christmas holidays
January 7 <sup>th</sup> – February 19 <sup>th</sup> 2021	Exams Fall semester a.y. 2020/2021 and extraordinary session a.y. 2019/2020
Spring semester	
February 22 <sup>nd</sup> 2021	Classes start
March 15 <sup>th</sup> -19 <sup>th</sup> 2021	Extraordinary graduation sessions a.y. 2019/2020
April 1 <sup>st</sup> -5 <sup>th</sup> 2021	Classes suspended - Easter holidays
April 6 <sup>th</sup> -7 <sup>th</sup> 2021	Extra week for rescheduled lectures
April 15 <sup>th</sup> – 17 <sup>th</sup> 2021	Intermediate exams
May 1 <sup>st</sup> 2021	Classes suspended (International workers' day - national holiday)
May 28 <sup>th</sup> 2021	End of classes Spring semester
June 2 <sup>nd</sup> 2021	Classes suspended (Republic Day – national holiday)
June 3 <sup>rd</sup> -30 <sup>th</sup> 2021	Exams summer session a.y. 2020/2021
June 29 <sup>th</sup> 2021	Classes suspended (Feast of Saints Peter and Paul – holiday in Rome)
July 1 <sup>st</sup> -23 <sup>rd</sup> 2021	Exams summer session a.y. 2020/2021
July 13 <sup>th</sup> -17 <sup>th</sup> 2021	Summer graduation session a.y. 2020/2021
July 26 <sup>th</sup> – August 22 <sup>nd</sup> 2021	Summer Holidays
August 23 <sup>rd</sup> – September 17 <sup>th</sup> 2021	Exams autumn session a.y. 2020/2021
November 2 <sup>nd</sup> – 5 <sup>th</sup> 2021	Graduation session a.y. 2020/2021
December 7 <sup>th</sup> -10 <sup>th</sup> 2021	Extraordinary graduation session a.y. 2020/2021
March 14 <sup>th</sup> -18 <sup>th</sup> 2022	Extraordinary graduation session a.y. 2020/2021

## **FACULTY**

### **RESIDENT FACULTY**

Prof. GIUSEPPE ARBIA, Statistics

Prof STEFANIA BRUNO (School of Medicine and Surgery), Epidemiology

Prof. AMERICO CICCETTI, Human Resource management

Prof. GIULIO DE BELVIS (School of Medicine and Surgery), Public health

Prof. MARIA CHIARA MALAGUTI, Law

Prof. MARCO RIZZO, Accounting

Prof. LUCA SALMASI, Health economics

Prof. GILBERTO TURATI (Academic Course Director), Health economics

Prof. STEFANO VILLA, Quality and operations management

### **ADJUNCT RESIDENT FACULTY**

Prof. ANDREA CAMBIERI (Gemelli Hospital, Rome), Quality and operations management

Prof. VIVIANA D'ANGELO (LUISS, Rome), Management and innovation in health and social services

Prof. BARBARA SVEVA MAGNANELLI (John Cabot University, Rome), Financial and management accounting in healthcare

### **VISITING FACULTY**

#### MANAGEMENT

Prof. GILLIE GABAY (College of Management Academic Studies, Israel)

Prof. PAUL GEMMEL (Ghent University, Belgium)

Prof. MAGDALENE ROSENMOELLER (IESE Business School, University of Navarra, Spain)

Prof. ROSALBA SCHINO (Boston University, USA)

Prof. ROSANA SILVERA REIS (ISG Paris, France)

#### ECONOMICS

Prof. JOAN COSTA-i-FONT (London School of Economics and Political Science, UK)

Prof. FRANCESCO MOSCONE (Brunel University London, UK)

Prof. ELENA PIZZO (University College London, UK)

#### QUANTITATIVE METHODS

Prof. STEFANO GLIOZZI (IBM, Italy)

Prof. XIAODONG LIU (University of Colorado, Boulder, USA)

Prof. NUNO MIGUEL DE SOUSA LUNET (University of Porto, Portugal)

LAW

Prof. EVA VILLARREAL PASCUAL (Inter-American Commission of Women - Organization of American States, USA)

## CURRICULUM

### Year 1

<b>Fall semester</b>		
<i>Courses</i>	<i>Area</i>	<i>Credits</i>
Statistics and big data (Prof. Arbia, Prof. Gliozzi)	Statistics	8
International law and health (Prof. Malaguti, Prof. Villarreal)	Law	8
Management and innovation in health and social service (Prof. D'Angelo, Prof. Reis)	Management	8
Quality and operations management (Prof. Villa, Prof. Gemmel, Prof. Cambieri)	Management	8

<b>Spring semester</b>		
<i>Courses</i>	<i>Area</i>	<i>Credits</i>
Financial and management accounting in healthcare (Prof. Magnanelli, Prof. Schino)	Management	8
Epidemiology (Prof. Bruno, Prof. Lunet)	Medicine/Statistics	8
Human resources management in complex organizations (Prof. Cicchetti, Prof. Rosenmoeller)	Management	8
Health economics (Prof. Turati, Prof. Moscone)	Economics	8

### Year 2

<b>Fall semester</b>		
<i>Courses</i>	<i>Area</i>	<i>Credits</i>
Pharmaeconomics and Health Technology Assessment (Prof. Salmasi, Prof. Pizzo)	Economics	8
Healthcare and Insurance in comparative Systems (Prof. De Belvis, Prof. Costa-i-Font)	Medicine/Economics	8
Health Econometrics and Program Evaluation (elective) (Prof. Arbia, Prof. Liu)	Statistics	8
Theology (seminar) (Prof. Lufrani)		
<b>Spring semester</b>		
<i>Courses</i>	<i>Area</i>	<i>Credits</i>
Planning and control in healthcare (Prof. Rizzo, Prof. Gabay) (*)	Management	8
Internship (or elective)		8
Final Dissertation		16

(\*) intensive course limited to the first six weeks of the semester.



## COURSE ACCESS REQUIREMENTS

### Candidates with Italian academic qualifications

1) **Laurea** (*ex* D.M. n. 270/2004 or *ex* D.M. n. 509/1999) completed or to be completed by 31 December 2020 pertaining to one of the following areas (Classi di laurea):

- L-18 Scienze dell'economia e della gestione aziendale (corresponding to 17 Scienze dell'economia e della gestione aziendale *ex* D.M. n. 509/1999)
- L-33 Scienze economiche (corresponding to 28 Scienze Economiche *ex* D.M. n. 509/1999)

or

a three-year degree (Laurea triennale) in any area (*ex* D.M. n. 270/2004 or *ex* D.M. n. 509/1999) completed or to be completed by 31 December 2020 **together with** at least 60 UFC achieved in the study plan of the three-year degree as specified below:

- up to **30 UFC** in the following fields: SECS-P/01, SECS-P/02, SECS-P/03, SECS-P/04, SECS-P/05, SECS-P/06;
- up to **40 UFC** in the following fields: SECS-P/07, SECS-P/08, SECS-P/09, SECS-P/10, SECS-P/11, SECS-P/12;
- up to **30 UFC** in the following fields: SECS-S/01, SECS-S/02, SECS-S/03, SECS-S/05, SECS-S/06, MAT/02, MAT/03, MAT/05, MAT/06, MAT/08, MAT/09;
- up to **12 UFC** in the following fields: SPS/04, SPS/07, SPS/08, SPS/09, SPS/10, M-PSI/06;
- up to **12 UFC** in the following fields: IUS/01, IUS/04, IUS/05, IUS/07, IUS/08, IUS/09, IUS/10, IUS/12, IUS/13, IUS/14;
- up to **30 UFC** in the following fields: ING-IND/16, ING-IND/17, ING-IND/35, ING-INF/05, ING-INF/06, INF/01;
- up to **12 UFC** in the following fields: L-LIN/04, L-LIN/07, L-LIN/10, L-LIN/12, L-LIN/14.

2) As a part of the completed three-year degree course, the candidate must have completed taken the following **classes**:

- Business administration and management
- Political economy
- Business organisation or Planning and control or Business economics and management;
- Private law or Public law or Company and Business Law

If the candidate has not completed one of the above-mentioned classes, the Coordinator of the degree programme will assess whether the necessary skills have been acquired by the candidate during their previous academic study. If the faculty determines that the candidate has acquired the necessary competencies, he/she will tailor an individual study plan for the candidate.

The study plan for candidates with a qualification completed according to previous legislation will be evaluated by a special Commission appointed by the Faculty.

3) **Language (English) skills**, at least equal to B2 of the Common Framework of Reference for Language Knowledge (CEFR), certified by one of the following :

- TOEFL/IBT (minimum score 84)
- Academic IELTS (minimum score 6);
- Cambridge English: First - FCE (minimum score B);
- Cambridge English: Advanced - CAE; • Cambridge English: Proficiency - CPE;
- Cambridge English: Business English Certificate (BEC Vantage and BEC Higher)

All these certificates must be acquired not earlier than 1 January 2018.

The candidate who does not have any of the above-mentioned certificates must take an Admission Test at SeLdA according to and within the timeframe outlined by the deadlines indicated in the call.

The candidate who has completed or has to complete an English-taught Laurea and the candidate who has completed or has to complete one of the courses provided by the Faculty is not required to take the Admission Test at SeLdA or present any language certification.

### **Candidates with international academic qualifications**

#### **1) Entry requirements**

Students must hold an undergraduate degree, obtained after a minimum of 3 years of study (180 ECTS) and in a subject that is relevant to the chosen degree programme. Students with less than 15 years of total schooling may not be eligible for admission to a graduate programme.

Only degrees awarded by a higher education institution that is accredited or recognized in the awarding country will be accepted. Università Cattolica del Sacro Cuore will evaluate the academic and personal background of each candidate to decide if candidates meet the specific conditions for admission to the chosen program. Students must complete their undergraduate studies and receive their undergraduate degree by the end of July 2020 (September for EU students).

#### **2) Language requirements**

Applicants whose first language is not English meet one of the following requirements::

- Have successfully completed a degree programme taught in the English language or
- Have a TOEFL iBT overall score of at least 83 to 85 or an Academic IELTS overall score of at least 6.0 to 6.5 (Other language certificates may be accepted; full list and program-specific minimum scores are available online at [international.unicatt.it](http://international.unicatt.it) )

Cattolica's TOEFL institution code is 2605.

Applications received from candidates with a foreign qualification are submitted to a special Commission, which evaluates each case to ensure the minimum requirements are met for admission.

In addition, candidates will have to undergo a motivational interview. Candidates deemed to have the knowledge and skills required for admission will be invited to attend the HCM Lab during the week preceding the official start of the classes.

## **SUBMISSION OF THE STUDY PLAN AND CHOICE OF ELECTIVE COURSES**

Students enrolled in Year 1 must:

- submit their study plan;
- choose their elective courses.

The terms and conditions of submission are disclosed to the students through the official communication channels (online bulletin boards, iCatt page, etc.).

Submission of the study plan and the elective courses is mandatory.

Students who wish to choose elective courses outside the proposed list in the program must apply for permission to the Degree Program Coordinator.

If an elective course does not reach the minimum number of participants, it could be cancelled. In this case, students who have registered for the canceled course will receive instructions about how to choose another course.

For Year 2, the student can choose an internship instead of an elective course. Refer to the specific section below for the requirements to be fulfilled in order to qualify for the internship.

**Information and notices about Internships are available in the Blackboard Economics community and on the STEP portal of the University's website (<https://step.unicatt.it/>).**

## DETAILED COURSE CONTENTS

### HEALTHCARE MANAGEMENT LAB

**Prof. SILVIA CORETTI**

**Prof. STEFANO VILLA**

**Prof. CHIARA GHIRINGHELLI**

### COURSE AIMS AND INTENDED LEARNING OUTCOMES

This intensive course (30 hours) aims to help first year students enrolled in program to familiarize with key concepts in economics, management and statistics at the beginning of their stay at the School of Economics in Rome. The course lasts one week and it is scheduled the first week of September before the formal beginning of regular classes. The overall objective is to provide basic knowledge in the three core areas of study in the Healthcare Management program.

### COURSE CONTENT

The Economics module is designed to teach students the main concepts of economics and is strongly recommended to students whose background is not in economics. The module will address the principles of economics in application to individual decision makers, both consumers and firms. Moreover, the course will cover demand, supply and equilibrium in goods and factor markets, the efficiency of the market economy and the potential role of government intervention in the economy.

The management module will introduce students to the broad field of management applied to healthcare organizations. At the end of the module, students will:

- have basic knowledge of structure and processes of organizations;
- be able to understand and classify the main features of healthcare organizations;
- be familiar with basic management terminology;
- develop basic knowledge about the accounting information system;
- be able to perform break-even point analysis.

The statistics module aims to provide the student with a general view of the logical aspects of statistics and therefore to be able to synthesize the information contained in the data, to analyze the results in an inferential key and to prepare the related summary reports. The course also aims to put the student in a position to carry out simple statistical analysis in first person through the use of the computer.

The course will cover the following topics: descriptive data analysis, introduction to probability and concept of distributions, statistical inference, hypothesis testing and linear regression.

### READING LIST

- Economics Module: Folland, S., Goodman, A. C., Stano, M. (2007). The economics of health and health care. Upper Saddle River, NJ: Pearson Prentice Hall. Chapters 1 and 2.
- Management Module: Airoldi-Ravasi (editors) (2010), Introduction to management: Cases & Readings, Egea, Milano, Part I.
- Levine, D., Szabat, K., Stephan, D. (2016). Business Statistics: A first course, 7th Edition, Pearson.
- Statistics Module: Levine, D., M., Krehbiel, T., C., Berenson, M., L., Statistica, Pearson Italia, 7a edizione, con MyLab e Etext, Milano, 2018.

### TEACHING METHODS

The course is structured in classroom lessons.

In the statistics module, the concepts introduced in the lesson will be deepened through the development of practical exercises also with the use of Microsoft Excel ©. For this purpose, students are required to come to class with their own Laptop.

### ASSESSMENT METHOD AND CRITERIA

No assessment.

### NOTES AND PREREQUISITES

The course is highly recommended to students who do not have previous background in management or economics.

In the event that the health situation relating to the Covid-19 pandemic does not allow for face-to-face teaching, the provision of distance learning teaching will be guaranteed in a manner that will be communicated to students in time.

## STATISTICS AND BIG DATA (8 ECTS)

Prof. GIUSEPPE ARBIA

Prof. STEFANO GLIOZZI (Visiting Faculty, IBM)

### COURSE AIMS AND INTENDED LEARNING OUTCOMES

The course aims to introduce the student to the world of Big Data. The course will be divided into two parts. In the first part the student will use the R language and its packages, to apply the basic statistical methods learned in a first three-years degree course. The second part will instead be devoted to introducing statistical models and methods and machine learning approach for the treatment of large and complex amounts of data. The emphasis will be on the practical aspects of implementing the various methods and models and on the interpretation of the results.

At the end of the course the student:

- will know how to analyze structured statistical data through the use of the R language and the RStudio development environment;
- will know how to distinguish between structured and unstructured data;
- will know how to distinguish between supervised models and non-supervised models.

### COURSE CONTENT

Introduction to the R package. Basic statistics (Descriptive statistics. Point and interval estimation. Test of statistical hypotheses on an average and on a percentage). Hypothesis testing on 2 averages and 2 percentages. Hypothesis testing on more than 2 averages (ANOVA) and on more than 2 percentages (CHI square). Multiple linear regression model. Nonlinear regression. Regression with dummy variables. Binomial and multinomial logistic regression. Factor analysis. Cluster analysis. Other supervised classification models: outline of regression trees approach (CART), CHAID, C.5, Random Forest, and Gradient Boosting classification algorithms; Bagging, Boosting and other assembling techniques; Approach to the evaluation criteria of a binary classification model.

### READING LIST

Everitt, B., Hothorn, T. (2011) An Introduction to Applied Multivariate Analysis with R, Springer-Verlag

Zelterman, D. (2015) Applied Multivariate Statistics with R, Springer-Verlag

Wickham, H., Grommum G. (2018) R for Data Science, O'Reilly. Freely available on-line at <https://r4ds.had.co.nz/index.html>

### TEACHING METHOD

Theoretical lectures and lab sessions on the software R and RStudio ©

### ASSESSMENT METHOD AND CRITERIA

Optional intermediate exam on PC. In the computer lab, students will perform practical exercises using R and RStudio © software. Under some circumstances, they may also carry out the test using their own PC on which the necessary programs will be installed. If successful, the intermediate exam will account for 50% of the final grade. Final examination carried out with the same criteria as the intermediate test. Those who will successfully pass the intermediate exam, will have to perform only the second part of the final exam. The intermediate exam can only be used in the winter session at the end of the course, in the January and February appeals.

### NOTES AND PREREQUISITES

Warnings: In the first lesson of the course the professor will indicate to the students how to download the R and RStudio software and the main R packages used throughout the course and how to get the codes for their installation on their own PC.

Prerequisites: a basic three-years degree course in statistics that includes descriptive statistics, probability, inductive statistical inference (point and interval estimators) and hypothesis testing.

Recommended text for prerequisites:

LEVINE, J-SZABAT-K. AND STEPHAN, D. (2018) Statistics.

## **INTERNATIONAL LAW AND HEALTH (8 ECTS)**

**Prof. MARIA CHIARA MALAGUTI**

**Prof. EVA VILLARREAL PASCUAL (Visiting Faculty, Organization of American States)**

### **COURSE AIMS AND EXPECTED LEARNING OUTCOMES**

The recent pandemic teaches us many lessons. While some international instruments on infectious diseases exist, there is not enough coordination among states. The international organization in charge of these matters, the WHO, has restricted power and can only make limited interventions. The pandemic has shed light on the vast differences found among the domestic health systems. Local healthcare policies and processes are often based on different premises and standards creating discrepancies in the protection of population, thus necessitating further considerations on the protection of human rights and on the role of health as a public good in a globalized world. Moreover, this pandemic has to be considered within the larger context of climate change, protection of the environment and social rights, since the concept of 'health' today has a much broader understanding. These are all matters that require international cooperation and joint efforts. Finally, the current trade system that sustains globalization strongly affects our general understanding of protection of health, and to many extents principles of free trade interfere with those of health protection.

The aim of the course is to delve on the above aspects evidencing the complexity of the issues at stake and proposing a holistic analysis of these.

After the course the student:

- Will be acquainted with all existing international instruments and organizations focusing on health
- Will be familiar with also WTO, OECD and other international bodies that play an indirect role on cooperation on health and influence the global governance
- Will know human rights approaches on health
- Will have acquired practice with indicators applied by international organizations assessing domestic policies
- Will adopt a holistic approach to health issues at international level
- Will be able to have a critical approach to issues at stake

### **COURSE CONTENT**

The course will address the issues of health and environment protection through the lenses of existing international theory and the most modern approaches on what is usually called "global law", as a concept going much beyond the analysis of the positive sources of international law (treaties and regulations). Students shall be required to read cases and understand the law in progress, as well as analyse critically concrete examples or actual reports of international organizations. Some economics, political science and theories of governance shall help in better understanding the issues at stake.

In order to approach global health under all the prospected angles, the course is organized in two interconnected modules. Following an introduction on the works of the WHO and the content of the SDGs in the field of health, these shall develop as follows:

a) The first module, by Professor Villarreal Pascual, will address general issues on human rights norms and standards as well as indicators used to assess their impact on health policies and programs. Additionally, it will delve into an in-depth analysis of the matters above through practical exercises.

b) The second module, by Prof. Malaguti, will address issues connected to trade and investments, on the one side, and health, food safety and environment protection, on the other side. These will also include treatment of pharmaceuticals, IP and the role of innovation. In this context, also the issue of patentability of viruses will be analysed, as one of the most urgent issues to be considered because of the COVID-19 pandemic.

### **READING LIST**

Students who follow classes on a regular basis will study on the basis of materials distributed during the course and coming from different sources, in particular actual cases.

Students who do not follow classes on a regular basis shall read the following text, which is in any event a reference text book for all students who want to have a complete and systematic understanding of the matter and supplement materials received in the course

- LAWRENCE O. GOSTIN, Global Health Law (Harvard University Press, 2014)

### **TEACHING METHOD**

Frontal lessons, case studies and discussions with students. Guests from international organizations and/or ONG may be invited to share their concrete experience with the students.

### **ASSESSMENT METHOD AND CRITERIA**

Students regularly participating into classes will conclude each module by submitting an individual written essay. Final grades will be the average resulting from the combined scores received in the two essays.

Students not participating into classes on a regular basis will sustain an oral exam based on the reference text book.

### **NOTES**

Students are kindly asked to refer to the backboard website for updated information and teaching materials related to the course.

## MANAGEMENT AND INNOVATION IN HEALTH AND SOCIAL SERVICES (8 ECTS)

**Prof. VIVIANA D'ANGELO (Adjunct Resident Faculty, LUISS, Italy)**

**Prof. ROSANA SILVERA REIS (Visiting Faculty, ISG Paris, France)**

The course aims to provide students with a general understanding of the trends and dynamics related to the management and innovation in the healthcare industry.

More specifically, the course will present participants with frameworks and tools offered by multiple perspectives, with the aim of offering students a heterogeneous set of the theoretical and practical models. Participants will apply such frameworks and tools to simulated and real case scenarios, to better understand the characteristics of managing innovation in healthcare, life-sciences and social services organizations (e.g. pharmaceutical companies, biotech firms, medical devices).

By the end of the course, students will be able to:

- identify and interpret the main challenges faced by healthcare, life-sciences and social services organizations in the current competitive landscape;
- assess what are the main tools and skills necessary to adopt the innovation and how such organizations implement innovation models;
- understand the technological, human, economic, organizational, social and other dimensions of innovation;
- demonstrate operational knowledge of the tools and models explained during the course and apply them to real world contexts (e.g., private firms or public hospitals);
- appreciate the relevance of managerial and innovative solutions adopted by healthcare, life-sciences and social services organizations;
- Develop a strategic and innovation mindset.

### COURSE CONTENT

The course is organized in 2 modules.

The first module is about the main managerial issues and strategies of healthcare organizations. The management challenges faced by hospitals, pharma companies, health institutions will be explored via theoretical lessons, practical exercises, and the discussion of real-world case studies.

More specifically:

- Fundamentals of Management and Management in Healthcare.
- Strategic Management.
- Business Strategy.
- Creating a company.
- Values, vision, mission, core business and corporate objectives.

The second module deepens into issues of strategic innovation in the healthcare sector. It will focus first on the basics of innovation and technology management, applied to healthcare, and then on emerging health technologies, their development and diffusion. Finally, it will cover innovative technology-based business models.

More specifically:

- Fundamentals of Innovation Management and Main models.
- Innovation in Healthcare.
- Developing, commercializing and adopting technologies in healthcare.
- Innovation strategies.
- Sources of Innovation.
- IP Issues and Ecosystem Management.
- Open innovation and collaboration.
- Health Technologies and their assessment: HTA.
- Innovative technology-based, business modelling: tools and skills.

### REFERENCES

#### Module I

J. ELTON-A. O'RIORDAN (2016), Healthcare Disrupted. Next generation business models and strategies, Wiley (Ch. 1, 3-7).

P.M. GINTER-J.W. DUNCAN-L.E. SWAYNE (2013), Strategic management of health care organizations, Jossey-Bass (Ch. 1-5).

Cases indicated by the lecturer on the Blackboard.

#### Module II

J. BARLOW (2016), Managing Innovation in Healthcare, WSP.

Selection of readings and cases uploaded by the lecturer on the Blackboard.

### TEACHING METHOD

Frontal lessons, case studies, simulations, group exercises and group dynamics.

### ASSESSMENT METHOD AND CRITERIA

Option I (attending students)



Module 1 Evaluation is composed as follows:

40% in classes activities

60% in final homework assignment

Module 2 Evaluation is composed as follows:

40% teamwork with 1 oral presentation in class

60% final written exam composed by 5 multiple choice questions and 5 open question/exercices

Both parts are compulsory, the final mark results from the average of module 1 and module 2 evaluation.

#### Option II

Final comprehensive (module 1 and module 2 contents) written exam composed by a short case study analysis, 10 multiple choice questions and 5 open question/exercises.

#### NOTES AND PREREQUISITES

No pre-requisites for this class.

In the event that the health situation related to the Covid-19 pandemic should not allow face-to-face teaching, distance teaching will be guaranteed learning in ways that will be communicated to students in good time.

## QUALITY AND OPERATIONS MANAGEMENT (8 ECTS)

**Prof. STEFANO VILLA**

**Prof. ANDREA CAMBIERI (Chief Medical Officer, Gemelli Hospital)**

**Prof. PAUL GEMMEL (Visiting Faculty, Ghent University, Belgium)**

### COURSE AIMS AND INTENDED LEARNING OUTCOMES

#### *General Learning Objectives:*

To be able to design, operate, and evaluate health care quality management systems and operations.

#### *Knowledge Outcomes:*

- Understand why quality management is needed.
- Understand impact of clinical decision making on quality of care.
- Understand impact of administrative systems on quality of care.
- Understand the impact of ancillary processes on the performance of healthcare organizations.
- Understand approaches to measuring quality.
- Understand approaches that have been taken in quality management.
- Understand strengths and weaknesses of different approaches.
- Understand the design and management of health care operations.
- Understand how to design and control a supply chain management system.
- Understand how to create value with healthcare operations management.
- Understand the current trends and innovation in the organization of healthcare production processes

#### *Skills Outcomes:*

- Ability to apply basic tools of quality improvement such as flowcharting, fishbone diagrams, statistical process control, etc. in health care settings.
- Ability to evaluate reliability and validity of criteria, guidelines, protocols, and other decision making tools.
- Ability to apply information systems for quality measurement and improvement.
- Ability to identify and prioritize opportunities for improvement.
- Ability to determine appropriate methods of improving performance and considerations in implementing such methods.
- Ability to measure the performance of hospital patient flows logistics.
- Ability to design a supply chain management system.
- Ability to implement changes in the organization of healthcare delivery processes.

### COURSE CONTENT

Health care organizations are required to provide quality health care as a competitive necessity as well as a regulatory requirement and ethical imperative. The course aims firstly to give students a theoretical framework regarding the definition and measurement of quality in healthcare.

Secondly, students will be introduced to the traditional quality improvement techniques such as regulation, credentialing, education, and to new techniques, including continuous quality improvement, system design, practice guidelines, clinical pathways and performance reports.

The course will focus particularly on operations management issues. The use of operations management techniques, extensively applied in businesses of all kinds, has also become a necessity in health care. In order for managers to improve the quality and efficiency of health care delivery, or successfully launch new services or products, they must understand the design and management of health care operations.

### READING LIST

Green and paper-less course: slides, cases studies and readings are all available on Blackboard.

### TEACHING METHOD

Classes consist of both lectures and discussions. Case studies will be used to introduce students to a wide range of practical operational issues in healthcare delivery.

The course is aimed primarily at those students interested in managing health care delivery processes. It will be equally valuable for students interested in careers devoted to the definition of health policies in the public and private sectors.

Finally, a good understanding of operations and supply chain management systems is becoming increasingly important for suppliers (e.g. pharmaceutical and medical devices companies) that aim to develop beneficial and lasting relationships with healthcare organizations.

### ASSESSMENT METHOD AND CRITERIA

For attending students, the final grade will be computed as it follows:

Individual assignment (15%)

Group work (15%)

Class Participation (10%)

Mid-term exam (30%)

Final exam (30%)

For non attending students the evaluation will be based on a single written exam on the whole program.

#### NOTES AND PREREQUISITES

In your own interest and of your colleagues, please try to observe the following courtesy rules:

1. Arrive in class on time; do not leave early.
2. Keep your mobiles and laptops off; do not use wireless network emailing in class.
3. Minimize wandering in and out of the classroom.
4. Participate fully in class.
5. Pull your weight in group/joint work. Do not free-ride on your colleagues!
6. Hand in assignments on time. Late submissions are not accepted.

Participation to all classes is highly recommended.

*In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching will be carried out following procedures that will be promptly notified to students.*

**FINANCIAL AND MANAGEMENT ACCOUNTING IN HEALTHCARE (8 ECTS)**

**Prof. BARBARA MAGNANELLI (Adjunct Visiting Faculty, John Cabot University, Italy)**

**Prof. ROSALBA SCHINO (Visiting Faculty, Boston University, USA)**

**COURSE AIMS AND INTENDED LEARNING OUTCOMES**

Upon completion of the first module, students are expected to:

- Have learned the primary principles and methods of financial accounting and be able to apply them to the recording of transactions and creation financial statements.
- Have a proven ability to analyze, interpret, and evaluate financial statements for the purpose of understanding an organization's operating and financial performance and making decisions regarding the provision of capital.
- Have an appreciation of the larger context of financial reporting (beyond rules and procedures).

Upon completion of the second module, students are expected to have the requisite knowledge and competency to apply the following cost accounting tools and techniques:

- Knowledge of the contents of the IAS 1 and more specifically of the Balance Sheet and Income Statement structure
- Analyzing cost/volume/profit relationships by healthcare product or service.
- Conducting break-even analysis.
- Implementing the activity-based costing technique.
- Overview of the budgeting process.
- Analyzing annual economic and financial performance of companies belonging to the pharmaceutical industry.
- Forecasting financial, operational results and planning for the necessary corrective actions to improve performance, both in the short and long- term.

**COURSE CONTENT**

The first module will cover the following content:

- Introduction and Fundamentals of Financial Accounting (Accounting as a decision making tool, the accounting equation, the transaction analysis, the adjustment and closing process, construction of financial statements).
- Ability to read key Financial Statements.
- The relevance of Cash Flow Statement, the Auditors' Report, the notes to the Financial Statements.
- The Investments and Consolidated Financial Statements
- Financial Statement Analysis using key financial ratios.
- Managing the Revenue Cycle in the Healthcare Organizations.

The second module will cover the following content:

- Managerial Accounting Basics & Cost-Volume-Profit Analysis.
- Overheads Cost Allocation and Activity Based Costing (TDABC).
- Cost calculation
- Operating Budgets and Financial Budgets overview.
- Performance analysis, financial and economic equilibrium

**READING LIST**

**FIRST MODULE:**

- Financial Accounting, Global Edition, 11/E, Walter T. Harrison, Charles T. Horngren, C. William Thomas, Wendy M. Tietz, Themin Suwardy.
- On-line textbook supplement: MAL

Students should sign-up in MAL to the instructor's course section using the information show below:

MAL Course ID for homework: schino11748

MAL Course name: Financial Accounting and Financial Statement Analysis- SP2019

- Healthcare Finance: An Introduction to Accounting and Financial Management, 6th Edition, Gapenski, Louis C., AUPHA Press/Health Administration Press, 2016.

**SECOND MODULE:**

- Gapenski, Louis C., Healthcare Finance: An Introduction to Accounting and Financial Management, 6th Edition, AUPHA Press/Health Administration Press, 2016.
- Pink, George H., and Paula H. Song, Gapenski's Cases in Healthcare Finance, 6th Edition, AUPHA Press/Health Administration Press, 2018.

**TEACHING METHOD**

For the first module teaching methods include a combination of formal lectures as well as discussions and presentation of exercises related to daily topics, led by students (the discussion and presentation of exercises are graded).

Students are expected to make an effort to get familiar with the assigned readings prior to the relevant class session as well as keeping up with the homework throughout the duration of the course.

Class participation is particularly important. Students will not receive participation credit solely for attending class. Active participation includes: responding to questions, being engaged during class discussion, and keeping a professional and

respectful behavior at all times in the classroom.

The second module builds on fundamentals of financial accounting concepts and financial statement analysis tools to expand students' competencies and skill sets for managing healthcare costs and strategic decision-making. Students will focus on management accounting tools and techniques. Through real case studies, students will learn how to interpret, analysis and forecast costs and revenues in a variety of organizational settings, such as managed care organizations, multi-specialty medical groups, and pharmaceutical companies. The aim is to provide the cost management tools and techniques to improve efficiency (cost per unit) and effectiveness (goal achievement). The takeaways will be cost analysis techniques that can be used by healthcare managers to improve organizational performance, both in the short and long- term.

#### ASSESSMENT METHOD AND CRITERIA

Each module counts for 50% of the total grade.

For the first module, attending students will earn their grade based on the following activities:

Evaluation Activity	Fraction of Course Grade
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Pre-Assignment Chapters 1-4-	10%
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First Day in-class Quiz	10%
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Homework	15%
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Discussion Leading	15%
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Participation	15%
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Final Exam	35%
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TOTAL	100%
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The Pre-Assignments, the First Day in-class Quiz, the Homework, and the Final Exam are all on-line.

The grade of non-attending students will be based on the scored earned at the Final Exam only.

For the second module, attending students will earn their grade based on the following activities:

Final Exam	100%
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TOTAL	100%
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#### NOTES AND PREREQUISITES

For the first module, prior to the beginning of the course, the instructor will make available a pre-assignment on the on-line supplement of Pearson (MAL). The pre-assignment is graded and is expected to be completed a few weeks before the beginning of classes. To this end, it is crucial for the students to proactively purchase the textbook and the access to MAL timely. The instructor will post on blackboard more details and information on this topic in due course.

##### *Office Hours*

For the second module, Professor Magnanelli's office hours are conducted through virtual meeting or onsite by previous appointment for the duration of the course period of April - May, 2021 (subject to final course schedule).

## **EPIDEMIOLOGY (8 ECTS)**

**Prof. STEFANIA BRUNO**

**Prof. NUNO MIGUEL DE SOUSA LUNET (Visiting Faculty, University of Porto, Portugal)**

### **COURSE AIMS AND INTENDED LEARNING OUTCOMES**

The course is aimed to provide students the quantitative dimension of health through the principles and methods of modern epidemiology in order to make them able to design and carry out simple epidemiological studies, to correctly read reports of epidemiological studies and interpret data. Furthermore, the course will give some insights into specific issues of applied epidemiology.

At the end of the course students should:

1. have acquired the knowledge and understanding of the main measures of occurrence that concern the health of the populations, the health risk of the populations and the association measures that link the exposure to the effect of population health;
2. be able to know how to read and interpret epidemiological studies, including systematic reviews of the literature; they should have acquired the skill to interpret the documents drawn up by the main research institutes with critical analysis of the results;
3. have developed useful skills to independently make choices on the use of measures to be used in the epidemiological field;
4. have acquired a rigorous and essential language that allows them to communicate clearly and effectively the knowledge acquired in the epidemiological field.

### **COURSE CONTENT**

1. Introduction to epidemiology
  - Definition and scope of epidemiology.
  - Epidemiology and public health.
2. Measures of occurrence: main concepts
  - Proportion and ratio.
  - Prevalence and incidence.
3. Measures of association
  - Absolute measures.
  - Relative measures.
  - Attributable and impact measures.
4. Principles of study design
  - Experimental trials and quasi experimental studies: aims, design and conduction, limits and strengths.
  - Cohort studies: aims, design and conduction, limits and strengths.
  - Case-control studies: aims, design and conduction, limits and strengths.
  - Cross-sectional studies and ecological studies: aims, design and conduction, limits and strengths.
5. Systematic review and meta-analysis
6. Confounding and effect modification: main concepts
  - Analysis of confounders and effect modifiers.
7. Standardization
8. Bias
9. Power analysis
10. Epidemiology of chronic diseases
11. Exposure assessment
13. Evaluation of diagnostic tests and study results

### **READING LIST**

KATZ DL, ELMORE JG, WILD DMG, LUCAN SC. Jekel's Epidemiology, Biostatistics, Preventive Medicine, and Public Health. Elsevier; 2014.

FLETCHER RH, FLETCHER SW, FLETCHER GS. Clinical Epidemiology: The Essentials. LWW; 2012.

ROTHMAN KJ. Epidemiology: An Introduction. Oxford University Press; 2012

### **TEACHING METHOD**

Lectures. Self-learning, problem-based learning.

### **ASSESSMENT METHOD AND CRITERIA**

The final exam will be performed through multiple choice items investigating: a) the knowledge of how to measure health phenomena; b) the understanding of study design principles and applications. The final mark will be based also on the written test; improvements of this classification are possible through the oral exam.

### **NOTES AND PREREQUISITES**

Students will also have to book the exam via Blackboard. The Teachers are available for any explanations, clarifications and programmed extra support by requesting via e-mail.

## **HUMAN RESOURCE MANAGEMENT IN COMPLEX ORGANIZATIONS (8 ECTS)**

**Prof. AMERICO CICCETTI**

**Prof. MAGDALENE ROSENMOELLER (Visiting Faculty, IESE Business School, University of Navarra, Spain)**

### **COURSE AIMS AND INTENDED LEARNING OUTCOMES**

Healthcare organizations are characterized by the central role of human capital in determining quality of care and financial performance. The course aims at providing students with a good knowledge of HRM processes and tools, with a specific focus on their implementation in the healthcare sector. The objective of the course is to develop both theoretical knowledge and practical skills connected to some of the most effective HRM tools used in complex organizations. Moreover, it is aimed at understanding the ways in which innovation affects the health care sector and in particular the workforce, and how it can best be managed.

After this course, students will have an extensive knowledge of the role of the HRM function within healthcare organizations and will be able to match a number of HRM tools and procedures to the function's (and organization's) strategy. He/she will be able to assess the "maturity" of HRM functions and be aware of the coherence between its objectives and its actions. Moreover, students will simulate the use of tools aimed at managing competencies and driving performance, thereby acquiring practical ability in concrete and "real-life" situations. Students will be invited to develop HRM strategies and present them to an audience, thereby developing their communication and persuasion skills.

### **COURSE CONTENT**

The course is structured into two parts:

Part I (prof. A. Cicchetti): Introduction, Course Overview; From strategy to people; Medical management and clinical leadership; Assessing jobs, persons and performance; Qualitative and quantitative methods; Pay for performance in medicine; What is a "competence model"?; From job families to professional roles; Final presentations and closing remarks

Part II (prof. Magdalene Rosenmoeller): A complex sector and complex care organizations; The Health Sector and the (Changing) Role of Professionals; HHRR Policy: Needs, Strategy and Planning; The European Context for Health Professionals; Knowledge Management; Continuous Education / Role Professional Journals; Realizing the Technology Revolution in Health Care; IT Technologies: changing paradigm, changed skills set; Integrated Care: Implementation of Innovation; Integrated Care changing role for HHRR; Managing for Quality; Commit to Excellence / Employee Satisfaction; The HHRR Managers Tasks; Career Development – Professional Growth; Leadership in Innovation and Creativity; Bases of Leadership / Clinical Leadership; Creative Teams / Design Thinking; Report Presentations. Conclusions Wrap Up

### **REFERENCES**

- Crawshaw J, Budhwar P, Davis A. Human Resource Management Strategic and International Perspectives, Sage, London (2019) [Chapters 1, 2, 7, 9, 10, 11, 14]
- "Characteristics & Qualities of a Personnel Manager", Bob Kelly, Demand Media
- "The Role of HR Manager in Health Care", Alejandro Russell, Demand Media
- Case Study HBS: "Development and Promotion at North Atlantic Hospital"
- Doctors and managers: a problem without a solution? (Bmj n. 326, 2003)
- What doctors and managers can learn from each other? A lot (Bmj n. 326, 2003)
- Case study HBS: Hospital Clínic de Barcelona
- Case Study HBS: "Performance Management at Vitality Health Enterprises, Inc"
- "Successes and Failures of Pay for Performance in the United Kingdom", NEJM 2014.
- "Allied Health Competency Model"
- "Job families and other taxonomies"

- Four Habits of High-Value HealthCare Organizations, R. Bohmer, NEJM, 2011
- Assessing future health workforce needs. Gilles Dussault et al. Policy Brief, 2010
- Action Plan for the EU Health Workforce, EC, SWD(2012) 93 final
- Perspective on the Professional Qualification Directive. Eurohealth, 17,4 2011
- HBS Intermountain Health Care (2013)
- IESE P1102 EN - TMC – Telemedicine Clinic
- IESE P1148E Innovating in the Basque Country. Moving to Chronic Care
- Think integration, think workforce: Three steps to workforce integration, Centre for Workforce Intelligence, 2013
- Why Hospitals don't learn from Failures, ATucker et al Californian Rev.Management 2003
- 10 Free (Or Very Inexpensive) Ways To Engage Staff, Quint Studer
- Chapter 8 & 9 Recruitment, Interviewing, and Selection Strategies / Maximizing Performance Management and Evaluation. JE Pynes - Human Resources Management for Health Care Organizations: A Strategic Approach. Jossey Bass 2012
- Case Pina Bausch: Leadership as collective Genius (ESMT 412-0132-1)
- NEJM, Leading Clinicians and Clinicians Leading, R. Bohmer, 2013
- Leading Teams (MSH Managers Who Lead, 2008)

Further articles, case studies and book chapters will be provided and shared through Blackboard.

#### TEACHING METHOD

Short academic lectures are sided with case study discussions, interactive sessions and laboratories. Regarding case studies, students are asked to read assigned documents in advance, before lessons. Students are also asked to work in groups of 5-6 people and to prepare case discussions of about 30 minutes.

Ten hours of the course are dedicated to a specific laboratory in which students, organized in groups (5-6 people), will have the chance to design job profiles under the guidance of the teacher. Groups are suggested to work during free time and will provide a formal power point presentation.

#### ASSESSMENT METHOD AND CRITERIA

The evaluation of contents delivered during course takes place through a:

- Written test (multiple choice and open questions) - 30% of the total mark
- Assessment of group-work presentation (laboratory) - 20% of the total mark
- Group work (prof. Rosenmoeller) - 30% of the total mark
- Assessment of participation in class - 20% of the total mark

It is possible to hold the written test at any session. However, given the nature of the other forms of evaluation, these require a regular presence and participation to lectures. It is therefore mandatory to be present in class.

There are no intermediate exams.

#### NOTES AND PREREQUISITES

Students must be fluent in written/spoken English and must ready to prepare and study materials before class sessions.

#### OFFICE HOURS

Monday 9.00 – 10.00



## **HEALTH ECONOMICS (8 ECTS)**

**Prof. GILBERTO TURATI**

**Prof. FRANCESCO MOSCONE (Visiting Faculty, Brunel University London, UK)**

### **COURSE AIMS AND INTENDED LEARNING OUTCOMES**

Health economics is a growing field of studies in economics concerned with the use of economic concepts to analyze issues related to health and healthcare. The goal of this course is to discuss selected topics within this field which are of utmost relevance for the management of healthcare organizations. The course will cover both micro- and macroeconomic issues. At the macro level, attention will be paid first to explaining cross country variation in health spending, with a particular emphasis on the role of productivity and the role of technology and innovation. At the micro level, the focus will be on the market for hospital services, which still represent about half of the healthcare spending in many countries. On the demand side, the course will analyze the choice of patients and the importance of information and networks. On the supply side, the course will focus on organizational design: at the firm level, discussing the role of not-for-profit hospitals as compared to physicians cooperative, for-profit clinics, public hospitals; at the market level, analyzing the quasi-market model and the role of incentives provided by different payment systems; at the sub-national level, providing a discussion of the impact of federalism and decentralization. Market outcomes will be finally considered in the light of inefficiency in spending and inappropriateness in the services provided. All the topics will couple theoretical concepts with the discussion of real world cases.

After the course the student:

- Will have knowledge of the determinants of healthcare spending and their role in explaining the observed evolution of public and private expenditure.
- Will have knowledge of the economic arguments relevant for the analysis of the demand and the supply of hospital services.
- Will be able to apply the knowledge acquired during the course for critically discussing real world cases related to patients' choice, the organization of hospitals, the organization of the market for hospital services, the decentralization of healthcare regulation to sub-national governments.
- Will be able to apply the knowledge acquired during the course to evaluate the efficiency and the inappropriateness of healthcare provision at different levels of aggregation.
- Will be able to use economic concepts in their analysis and reports.

### **COURSE CONTENT**

The course is designed as an advanced course in health economics for students interested in becoming professional managers in the healthcare industry. The program is divided in four broad parts:

#### **PART I: UNDERSTANDING HEALTHCARE SPENDING**

The economic approach to the analysis of health and healthcare

- Inequalities in healthy life years across countries

The determinants of healthcare spending

- Observing the dynamics of expenditure
- The role of innovation and technology

#### **PART II: THE DEMAND SIDE OF THE MARKET FOR HOSPITAL CARE**

The traditional approaches

- The Grossman model: health shocks and the demand for care

Information and networks

- Availability of information and patients' networks
- The quality of care

#### **PART III: THE SUPPLY SIDE OF THE MARKET FOR HOSPITAL CARE**

The hospital as a firm

- Not-for-profit providers
- Incomplete contracts and a theory of the ownership of the firm
- Mixed oligopolies and beyond

The hospital as a key market player

- Incentives in the quasi-market model
- The behavior of different types of providers and the role of competition

Decentralization and fiscal federalism

- The regulation of hospitals at the sub-national level
- The differences across sub-national systems

#### **PART IV: INEFFICIENCY AND INAPPROPRIATENESS**

How to evaluate outcomes

- Methodologies to assess inefficiency and inappropriateness
- DEA and stochastic frontiers

Case studies

- De-hospitalization
- C-sections

## READING LIST

Each topic is covered by a list of selected references (mostly scientific journal articles) that will be provided by instructors and discussed during the lectures. Additional readings will be taken also from:

B.H. BALTAGI-F. MOSCONE (eds.) (2018), Health Econometrics, Contributions to Economic Analysis, Emerald Publishing;

S. GLIED-P.C. SMITH (eds.) (2011), Oxford Handbook of Health Economics, OUP.

## TEACHING METHOD

Lectures and discussion of case studies.

## ASSESSMENT METHOD AND CRITERIA

Evaluation is based only on a written exam lasting 60 minutes. The exam is made of three sections. Section 1 comprises 10 multiple choice questions on basic concepts discussed during the course. Each correct answer is worth 1 point; each wrong answer provides -0.5 points. Sections 2 and 3 are open questions and are thought to test the ability of students to apply the knowledge acquired during the course and to communicate using key economic concepts what they have learned. Instructors will evaluate the completeness and accuracy in answers to mark exams.

## NOTES AND PREREQUISITES

Students are required to have basic knowledge of key concepts in microeconomics and key concepts in statistical inference and regression analysis to fully understand the arguments discussed during the course.

Students are kindly asked to refer to the Blackboard website for updated information and additional teaching material related to the course.

*Please, be advised that in case the emergency situation determined by the Covid-19 pandemic will not allow traditional classes to be organized, teaching will be guaranteed using distance learning tools (Blackboard).*

## PHARMACOECONOMICS AND HEALTH TECHNOLOGY ASSESSMENT (8 ECTS)

**Prof. LUCA SALMASI**

**Prof. ELENA PIZZO (Visiting Faculty, University College London, UK)**

### COURSE AIMS AND INTENDED LEARNING OUTCOMES

Pharmaeconomics and Health Technology Assessment (HTA) is a relevant field of studies in health economics, concerned with understanding whether resources are allocated to the most cost-effective treatment or health technology. The aim of this course is to present and discuss selected topics within this field, which are of utmost relevance for the management of healthcare organizations. During the course students will learn both theoretically and empirically how to assess a cost-effectiveness analysis to evaluate the adoption of a new medical treatment or health technology. Theoretical lectures will introduce the basic concepts of pharmaeconomics and HTA, defining how to measure and discount costs and benefits. Then, attention will be paid to the decision-making process, introducing relevant concepts and methods to inform policy makers or hospital managers on whether a new technology should be preferred with respect to the most relevant alternatives. The last part of the course will be devoted to applying the theoretical models through intensive lab sessions using the R package BCEA, one of the most popular statistical software to perform Bayesian cost-effectiveness analysis. During lab sessions two case studies will be presented and discussed.

After the course the student:

- will have knowledge about the main aspects of pharmaeconomics and HTA.
- will have knowledge of the main methods to perform cost-effectiveness analysis of new medical treatments/health technologies.
- will be able to apply the knowledge acquired during classes to discuss relevant topics on pharmaeconomics and HTA with an appropriate technical language.
- will be able to apply the knowledge acquired during classes to discuss results of a Bayesian cost-benefit analysis.
- will be able to apply the knowledge acquired during classes to perform independently a Bayesian cost-effectiveness analysis with the R package BCEA.

### COURSE CONTENT

#### PART I: INTRODUCTION TO PHARMAECONOMICS AND HEALTH TECHNOLOGY ASSESSMENT

- How to measure costs and case study
- How to measure outcomes (effectiveness, monetary benefits, utility)
- Quality Adjusted Life Years (QALYs), methods for extrapolation and case study
- Discounting (both for costs and outcomes)

#### PART II: THE DECISION-MAKING PROCESS

- Incremental Cost-Effectiveness Ratio (ICER) and the cost-effectiveness plane
- The National Institute for Health and Care Excellence (NICE) and relevant thresholds
- Net Monetary Benefit (NMB) and dominance
- Decision trees
- Markov models
- Introduction to dynamic models
- Bayesian analysis
- Introduction to sensitivity analysis (discrete and PSA)
- How to appraise a paper (checklist)

#### PART III: INTRODUCTION TO BAYESIAN ANALYSIS AND CASE STUDIES

- Bayesian analysis in health economics
- Basic concepts of health economic evaluation
- Doing Bayesian analysis and health economic evaluation in R
- Case studies: (i) vaccine and (ii) smoking cessation

#### PART IV: USING R TO PERFORM BAYESIAN COST-BENEFIT ANALYSIS (LAB)

- Basic health economics evaluation
- Cost-effectiveness plane
- Expected incremental benefit
- Health economic evaluation for multiple comparators and the efficiency frontier
- Probabilistic Sensitivity Analysis
- Modelling parameter uncertainty
- Value of information analysis
- PSA applied to model assumptions and structural uncertainty

### READING LIST

BRIGGS-KLAXTON-SCULPHER, Decision modelling for health economic evaluations, Oxford University Press 2011.  
DRUMMOND-TORRANCE-STODDART, Methods for the Economic Evaluation of Healthcare Programmers, Oxford University Press, 2015.

G. BAIO, A. BERARDI, A. HEATH, Bayesian Cost-Effectiveness Analysis with the R package BCEA, Springer International Publishing, 2017.

#### TEACHING METHOD

Classes are organized as frontal and lab sessions. Frontal lectures provide knowledge necessary to understand fundamental concepts of pharmaeconomics and HTA. Lab sessions propose empirical analysis of case studies using models discussed throughout the course.

#### ASSESSMENT METHOD AND CRITERIA

Evaluation is based only on a written exam lasting 60 minutes. The exam is made of three sections. Section 1 comprises 10 multiple choice questions on basic concepts discussed during the course. Each correct answer is worth 1 point; each wrong answer provides -0.5 points. Sections 2 and 3 are open questions and are thought to test the ability of students to apply the knowledge acquired during the course and to communicate using key concepts that they have learned. Instructors will evaluate the completeness and accuracy in answers to mark exams.

#### NOTES AND PREREQUISITES

Students are required to have basic knowledge of key concepts in health economics and in statistical inference and regression analysis to fully understand the arguments discussed during the course.

Students are kindly asked to refer to the Blackboard website for updated information and additional teaching material related to the course.

In the event that the health situation related to the Covid-19 pandemic will not allow for in presence frontal lectures, lectures will be guaranteed online and students will be promptly informed.

## **HEALTHCARE AND INSURANCE IN COMPARATIVE SYSTEMS (8 ECTS)**

**Prof. ANTONIO GIULIO DE BELVIS**

**Prof. JOAN COSTA-i-FONT (Visiting Faculty, London School of Economics and Political Science, UK)**

### **COURSE AIMS AND INTENDED LEARNING OUTCOMES**

The main course objectives are:

1. To provide a way of thinking about health care insurance
2. Understand the different health systems designs
3. A clear analytical way of examining health care reforms and health systems, according to a economical and a public health perspective
4. To understand the policy challenges of ageing, innovation and payment design in the health sector.

At the end of the course the student:

Will know the main theoretical models that explain the organizations, governance and management of healthcare systems;

Will be able to define the main domains of functioning in healthcare systems;

Will be able to build a dashboard of indicators to measure the performance of an healthcare systems;

Given a public health issue (eg: vaccination, non communicable diseases,...) will be able to compare the main functions, organization of services (ie, health promotion and prevention, diagnostics, treatment, follow up and rehabilitation), healthcare and non healthcare interventions and policies among a panel of OECD countries.

### **COURSE CONTENT**

The course will first outline the approaches to analyze the organization, financing and delivery of health services among different health care models.

We will classify and describe the main institutional framework for health policy and the process, content and implementation of this policy.

After classifying the models, we proceed by looking at the main dimensions of the health systems performance and how to compare performance in primary, secondary and tertiary care across the several health models.

Attention will also be paid to specific topics like health insurance, long term care funding, decentralisation, and health inequalities.

### **READING LIST**

Smith EC, Mossialos E, Papanicolas I, Leatherman S. Performance Measurement for Health System Improvement: Experiences, Challenges and Prospects. 2010, Cambridge University Press, New York.

Ferre F, de Belvis AG, Valerio L, Longhi S, Lazzari A, Fattore G, Ricciardi W, Maresso A. Italy: Health System Review. Health Syst Transit. 2014 Sep;16(4):1-168.

de Belvis AG, Ferrè F, Specchia ML, Valerio L, Fattore G, Ricciardi W. The financial crisis in Italy: implications for the healthcare sector. Health Policy. 2012 Jun;106(1):10-6. doi: 10.1016/j.healthpol.2012.04.003.

Costa-Font, Joan and Turati, Gilberto (2017) Regional health care decentralization in unitary states: equal spending, equal satisfaction? Regional Studies. ISSN 0034-3404

Costa-Font, Joan (2017) The National Health Service at a critical moment: when Brexit means hectic Journal of Social Policy, 46 (4). 783-795. ISSN 0047-2794

Costa-i-Font, Joan and Mas, Núria (2016) 'Globesity'? The effects of globalization on obesity and caloric intake Food Policy, 64. 121-132

### **TEACHING METHOD**

The format of this course is a combination of lectures, case discussions, and readings. We will employ the following teaching methods:

(a) Readings from textbooks: To provide basic structure, concepts and techniques.

(b) Readings from journals: To augment the textbooks and provide more rigorous intellectual foundation.

(c) Lectures/Classes/Discussions: To create a coherent framework of studying the source material; to give students a chance to ask questions and clarify their understanding.

(d) Case studies: To apply what has been learnt to real life situations.

Active student participation is essential in the classes. In the classes, the lecturer will introduce the topic/case/experiment/exercise and lead the discussion. Students are encouraged to present pre-assigned material and lead part of the discussion in the class group. Pre-assigned reading of cases and exercises is essential.

Practicals

Evaluation of health care systems; Performance indicators; By considering the ongoing pandemic threat, a web based cross-country comparisons of policies and management of Covid-19 will be performed on several countries in the European Region of WHO.

### **ASSESSMENT METHOD AND CRITERIA**

The exam is composed of written questions regarding all modules.

The evaluation is based on two elements:

Group work on the organizations, health needs assessment, governance, allocation and health and non health policies and activities on a public health issue in a given OECD country

Final written test on the second part of the program.

All the elements of evaluation (group work and final examination) are expressed in 30/30.

All the other details concerning the exam procedures will be given out by the Lecturer at the beginning of the course.

#### NOTES AND PREREQUISITES

None.

## **HEALTH ECONOMETRICS AND PROGRAM EVALUATION (8 ECTS)**

**Prof. GIUSEPPE ARBIA**

**Prof. XIAODONG LIU (Visiting Faculty, University of Colorado, Boulder, USA)**

### **COURSE AIMS AND INTENDED LEARNING OUTCOMES**

The course aims at introducing the student to a rigorous study of the basic econometric models by studying the statistical properties of the various parameter estimators. It also aims at introducing the student to the R © statistical package and to correctly interpret the results of the estimates.

At the end of the course the student:

- will know the properties of the various estimators and will therefore be able to choose the best in each specific case
- will know how to estimate various types of regression models with the use of the R © statistical software
- will know how to accurately interpret the meaning of the estimated parameters and the different statistical tests calculated to complement the regressions

### **COURSE CONTENT**

Simple linear regression, ordinary least squares estimate (OLS). Maximum likelihood estimation. Method of moments estimation. Multiple linear regression. Violation of the hypotheses of validity of OLS: Normality, Heteroskedasticity, Temporal and Spatial Autocorrelation. Discrete choice models and non-linear regression. Use of econometric models to test the effectiveness of health programs.

### **READING LIST**

Arbia, G. (2014) A Primer for Spatial Econometrics: With Applications in R (Palgrave Texts in Econometrics), Palgrave MacMillan

Greene W. (2018) Econometric Analysis, 8th Edition, Pearson

### **TEACHING METHOD**

Lectures, laboratories with the use of the R © software

### **ASSESSMENT METHOD AND CRITERIA**

Optional intermediate exam on PC. Students will carry out practical exercises in the classroom with the use of their own PC on which the free software R © will be installed.

If successfully, the intermediate exam will account for 50% of the final grade.

Final examination carried out with the same criteria as the intermediate exam. Those that will have successfully passed the intermediate exam, will have to carry out only the second part of the final exam.

The intermediate exam can only be used in the winter session at the end of the course, in the January and February appeals.

### **NOTES AND PREREQUISITES**

Prerequisites: a basic course in statistics. Introduction to the simple linear regression model.

## **PLANNING AND CONTROL IN HEALTHCARE (8 ECTS)**

**Prof. Marco Giovanni Rizzo**

**Prof. Gillie Gabay (Visiting Faculty, College of Management Academic Studies, Israel)**

### **COURSE AIMS AND INTENDED LEARNING OUTCOMES**

The aim of the course is to enable students to develop specialized knowledge of performance measurement systems in healthcare organizations, including how they can contribute to measure the level of strategy implementation. A further aim is to enable students to develop the ability to use relevant concepts in discussions of strategy implementation; profit goals and strategies achievement; techniques of profit planning; balanced scorecard and transfer pricing.

On completion of the course, students shall be able to:

- explain relevant advanced concepts of planning and control in healthcare, associated with models and instruments of performance measurement; demonstrate an integrated view of strategic leadership and controlling processes; classify different types performance areas and indicators; demonstrate understanding of the meaning of critical thinking and reflection in academic texts and seminars;
- use concepts and models of planning, control and performance measurement systems for description, analysis and discussion of the new or unfamiliar managerial issues and practices in healthcare; make proposals concerning planning and control in healthcare, including the performance measurement system with a special focus on managing strategic tensions, diagnostics and control;
- reflect on financial and organizational control from different perspectives, including an ethical perspective; critically analyze the consequences of the implementation of different strategies and performance measurement systems' decisions in speech and writing;
- develop the learning skills necessary to for them to continue studying in a largely self-directed or autonomous way or apply for managerial positions.

### **COURSE CONTENT**

The course will start with a briefly review of the basic knowledge of management control and management control system in healthcare organizations. The course is structured into two modules. The first module will cover the following contents: foundations for implementing strategies (organizational tensions to be managed; basics for successful strategy; organizing for performance; using information for performance measurement and control);

achieving profit goals and strategies (using diagnostic and interactive control systems; aligning performance goals and incentives; identifying strategic risk; managing strategic risk; levers of control for implementing strategy).

The second will cover the following advanced contents:

- the introduction of advanced performance measurement and control systems in healthcare organizations and the advanced tools for performance management and control in public sector following the New public management principles;
- creating advanced performance measurement systems in private and public healthcare organizations (the profit plan; linking performance to markets and transfer prices; building a balanced scorecard).

### **READING LIST**

R. SIMONS, Performance measurement and control system for implementing strategy. (last edition) Pearson. New International Edition (Chapters: 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14)

Further materials will be posted on Blackboard.

### **TEACHING METHOD**

Teaching methods include formal lectures as well as the discussion of case studies and exercises in order to enhance students active participation and learning. Class participation is strongly recommended.

### **ASSESSMENT METHOD AND CRITERIA**

Grading will be based on written exams (according to the official exam schedule) including both essay questions, exercises and short case studies. Students have the opportunity to accomplish the exam in two stages. Students will be expected to take a mid-term and an end-term test, respectively covering the first module topics and the second module topics of the course. Each test counts for 50% of the final grade. The mid-term test will be offered only once. The second end-term test: (i) will be offered to the students that did not fail in the mid-term exam; (ii) will be based on the topics of the second module; (iii) will be offered in the first date of final exam according to the official exam schedule. Students who (i) choose not to take these two tests, (ii) fail at least one of these tests, or (iii) choose to retake the exam will be offered a comprehensive final exam according to the official exam schedule.

### **NOTES AND PREREQUISITES**



In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching will be carried out following procedures that will be promptly notified to students.

#### OFFICE HOURS

Professor Rizzo is available each Tuesday from 4.30 p.m. (office 3th floor, n.554, Faculty of Management, Roma) or by e-mail ([marcogiovanni.rizzo@unicatt.it](mailto:marcogiovanni.rizzo@unicatt.it)). Professor Gabay is available by e-mail ([gillie.gabay@gmail.com](mailto:gillie.gabay@gmail.com)).

## THEOLOGY COURSES

The student must attend a course of 30 hours in the Fall semester of the second year on topics related to the curriculum. At the end of the course the student must take a final exam. The results of this exam will be measured on a scale of 30 points.

### **THEOLOGY (SEMINAR): HOW DO WE BUILD A CIVILIZATION OF LOVE? PROF. FR. RICCARDO LUFRANI OP**

#### **COURSE AIMS AND INTENDED LEARNING OUTCOMES**

The seminar intends reflecting on the Social Doctrine of the Church, focusing on the building of a Civilization of Love. Students will have to reflect on concrete possibility of building a Civilization of Love, considering the “working mechanism” of the historical reality, as studied in the realistic-dynamic philosophy/theology of Don Tommaso Demaria SDB.

#### **COURSE CONTENT**

- Introduction to the Social Doctrine of the Church.
- Introduction to the realistic-dynamic philosophy/theology of Don Tommaso Demaria SDB.
- Presentation of the five principles and the fundamental values of the Social Doctrine of the Church.
- Seminarial work.

#### **READING LIST**

Students have to choose one of the following options:

Option I: Compendium of the Social Doctrine of the Church §4; B. State, P. Park, I. Weber, M. Macy “The Mesh of Civilizations in the Global Network of Digital Communication” PLoS ONE 10(5): e0122543. doi:10.1371/journal.pone.0122543;

R. Lufriani, “Utopia, Retrotopia, Protopia and the Building of the Civilization of Love.” (2019), Communication at the International Conference “The Human Measure”, LUMSA, Rome, 9-11 January 2019.

Option II: Compendium of the Social Doctrine of the Church §4; T. Demaria, For a New Culture, Verona, 1982.

Readings are complementary and not substitutive of the contents treated during the lectures.

#### **TEACHING METHOD**

The course being a “seminar” demands active participation from the students who will be divided in groups that will work on Chapter 4 of the Compendium of the Social Doctrine of the Church and, one of the two texts proposed. The organized groups have the creative liberty of presenting the theme and of proposing concrete ways to build a Civilization of Love. The arguments that will be considered vary from theoretical and practical questions, and students are highly encouraged to integrate the reflections of Don Tommaso Demaria SDB with their academic and medical experience, giving thus not a simple presentation, but an enriched reflection.

The field of application concerns the application in the health management of the five principle of the Social Doctrine of the Church. Students who have the duty of presenting the theme should be able to present to their colleagues the elements for a debate.

Given the nature of the arguments, students will have a margin for giving their own vision and judgement, having previously given proof of their understanding of the arguments exposed.

Students will be tutored in the responsibility of animating a group discussion.

#### **ASSESSMENT METHOD AND CRITERIA**

The final evaluation will be based on three criteria:

50 %: the group presentation

50 %: active participation in the lectures.

#### **NOTES AND PREREQUISITES**

Students who have any trouble following the lectures have to get in touch personally with the coordinating professor to agree about the integrative materials and possible solutions.

## **INTERNSHIP (8 ECTS)**

**Prof. SUSANNA DI MARTINO (Academic Internship Tutor)**

### **1. THE CURRICULAR INTERNSHIP**

A curricular internship is a valuable opportunity for students to experience the workplace and to develop professional, interpersonal and organisational skills as a means to complete their programme.

### **2. TYPES OF CURRICULAR INTERNSHIP**

There are two types of curricular internships:

#### **a) Credit-bearing internships**

This type of internship is for students who have earned a number of credits equivalent to the first year credits (i.e., 64 ECTS for HEMA students) with an average grade of at least 26/30 and can be used as an alternative to an elective Year Two exam. All prerequisites for credit bearing internship must be fulfilled before the internship starts. The internship is valued 8 ECTS and it is graded as an exam. A credit-bearing internship lasts a minimum of 220 hours, equivalent to two months' full-time work or three to four months' part-time work. The focus of the internship may not be used as a degree thesis topic.

#### **b) Non-credit-bearing internships**

This type of internship is for students who

- a) have not met the prerequisites for credit-bearing internships (i.e., they have not earned a number of credits equivalent to the first year of the programme and/or they do not have an average grade of at least 26/30) or
- b) have already taken Year Two elective exams or
- c) wish to use the focus of the internship for their degree thesis.

### **3. ACADEMIC INTERNSHIP TUTOR**

The university internship tutor advises students on the selection of host companies and job offers and is involved in the process of assessment of internships activities undertaken and the issuance of credits. Refer to the Stage and Placement Office and the UCSC International Office for detailed administrative information.

### **4. HOW TO APPLY**

For either type of internship, students must inform their academic internship tutor no later than two months before the intended start of the internship.

In order to do this, they must submit an internship application using the module available on the Unicatt web site presenting also the related documentation, including their CV and exam and grade certification.

Students are then responsible for finding a suitable host company, with the support of their internship tutor, as described in point 5 below.

### **5. SELECTING THE HOST COMPANY**

Undertaking an internship and finding/selecting a host company requires students' active participation.

Internships are either publicised by the university or found and arranged directly by the participating student through personal contacts with the host company.

- (i) If **publicised by the University**, the relevant information will either be available online at <http://step.unicatt.it> or via internship tutors' announcements on Blackboard or via email.

Students are responsible for their own internship applications and must follow instructions in the internship postings. A host company may have an internship available for a student with specific qualifications and skills set, or may have an immediate need to fill the internship position. In this case the tutor may select a suitable candidate and forward that student's CV to the company.

Any communication regarding internships will be sent to students' university email addresses. Students should therefore be sure to check their iCatt email accounts regularly.

Internships placements are finalised after a successful interview with the prospective host company. It is therefore each student's responsibility to adequately prepare for their own interview.

- (ii) If arranged directly by the participating student through personal contacts with the company, the internship tutor will contact the company and make sure that the internship opportunity is appropriate and valid. For a credit-bearing internship the tutor will check that requirements are met for the assignment of credits.

A valid internship agreement must exist, or be established, between the host company and the university. If no agreement is in place it is the student's responsibility to inform the company of the procedure which is available online at <http://step.unicatt.it>. An internship cannot begin until there is an agreement in place.

If there are any uncertainties about the recognition of credits towards their degree, it is the students' responsibility to get clarification from the internship tutor before the internship commences.

**Credits will NOT be given for the following activities:**

- duties carried out in close contact with persons related to the candidate in any way;
- internship activities that have already been used for credits towards an undergraduate and/or specialising master programme;
- internship activities already underway or completed.

## **6. SETTING UP A CURRICULAR INTERNSHIP**

Curricular internships, whether credit-bearing or not, must always be set up online at <http://step.unicatt.it>

The host organisation normally starts the process by filling in an online form (Training Project or *Progetto Formativo*). The host company, the student and the University (via the internship tutor) must then all three accept the terms and the content of the project via an online procedure.

Details of the procedure can be found on the Degree Programme webpage.

## **7. FULFILMENT OF TERMS AND REGISTRATION OF HOURS**

Whilst undertaking an internship, students must fulfil the terms and conditions agreed upon during the selection process and as set out in the Training Project document.

Students must keep their tutor updated on progress during the internship and are responsible for contacting their tutor should any changes be made to the content of the Training Project.

Students are also responsible for keeping a register of hours spent at the host company. Registers are available online.

If a tutor becomes aware that an internship student is not fulfilling the terms and conditions of the internship, the tutor may request that the internship be suspended and the issuance of credits be withheld.

## **8. INTERNSHIP ASSESSMENT BY HOST COMPANIES**

The host company will be expected to submit a final assessment at the end of the internship (via an online form available at <http://step.unicatt.it>). Issue of credits and grades for a credit-bearing internship is dependent on a satisfactory assessment of the student's performance.

## **9. ISSUANCE OF CREDITS (for credit-bearing internships)**

It is each internship student's responsibility to inform the internship tutor when the training activity has been concluded. At the end of the internship, student will produce an "Internship Report" and the final grade (based on the standard 30-point scale) will be assigned both on the evaluation of the host company tutor and on the evaluation of their final report by the academic internship tutor.

The following documentation must be submitted to the internship tutor (preferably at the same time) in order for credits to be issued:

- the original copy of the attendance register showing attendance of a minimum of 220 hours at the host company: the register must be signed and stamped by the host company;
- a final report on the curricular internship with details of duties carried out and learning outcomes achieved (the final report cannot be used as part or whole of the final degree thesis);
- the statement of internship completion, which is obtained by registering for a relevant exam call and which is then formally certified by the tutor with assignment of the approved credits.

Incomplete documentation may prevent the approval of curricular internships and the issuance of credits.

After assessing and approving the documentation, submitted within the specified deadlines, and after receiving the host company's evaluation (as set out in the previous point), the tutor will record relevant credits and grades as required.

The internship tutor's assessment of credits and grades, if applicable, is final. Students who do not accept the assigned grade will have to obtain credits in an alternative way (via a different internship or an elective course). Similarly, students who do not fulfil the terms of their internship or who fail to complete their internship must select an alternative way to obtain credits.

Records are normally received by Student Services at the end of the exam session in question and in time for registration for the final degree exam session. Should urgent registration of credits be necessary, students should contact their internship tutor in good time.

## **10. TERMINATING A CURRICULAR INTERNSHIP**

Students needing to terminate their internship in advance with respect to the agreed terms must inform the host company and the internship tutor immediately setting out their reasons for doing so.

The host company is then required to register this online via <http://step.unicatt.it>.

If an internship is terminated before attendance of the minimum number of hours is reached, credits will not be issued. Termination in advance may also affect grades for the internship.

An internship can also be terminated if students do not fulfil the terms of the training activities, in which case the relevant credits will not be issued by the internship tutor.

If an internship is terminated, or if the terms of an internship are not fulfilled or if the credits are not issued, students will have to make up for the missing credits by selecting an alternative course of the same duration to put into their study plan.

## **11. EXTENSION OF A CURRICULAR INTERNSHIP**

A curricular internship can be extended provided that the overall duration of the internship does not exceed six months and that it does not continue beyond the completion date of the degree programme.

If a host company wishes to extend a student's work experience beyond the stipulated six months, it must set up a traineeship of a different nature, which cannot be credit bearing. However, this extended internship can be used for a final degree thesis.

## **12. INTERNSHIPS ABROAD**

The University encourages students to undertake their internship or work experience abroad.

There are three types of internships abroad:

(A) **internships offered by companies abroad** (posted on <http://step.unicatt.it>);

(B) **internships instigated by students**;

(C) **internships offered** within the framework of agreements established by the **Global Engagement and International Education Office**:

<https://goabroad.unicatt.it/goabroad-programmi-ucsc-network-internships-abroad>

Procedures for setting up a curricular internship are as set out above in this document.

For type C internships (above), students will receive an email confirming acceptance of applications from the Global the Engagement and International Education Office.

## FINAL DISSERTATION (16 UFC)

The final examination for the Master's Degree Programme (*Laurea Magistrale*) consists of a defense of a final thesis written on a topic previously agreed with a supervising faculty member (*Relatore*) for the relevant discipline. The discussion of the thesis will also involve a secondary supervisor (*Correlatore*) who is preferably suggested by the primary supervising faculty member.

### An original contribution the field and its advancement

The thesis work required for a graduate degree must be original and undertaken independently by each student, and must meet the following basic criteria:

- the work must demonstrate an ability to independently produce a thesis on an advanced research topic with comprehensively set out research questions;
- the work must demonstrate: a) proper use of sources, data and methodologies; b) an ability to process lines of enquiry and use critical thinking when using sources; c) mastery of the literature published on the topic.

A thesis that is merely descriptive and that simply puts forward ideas already published without originality would not satisfy the requirements of a graduate degree programme.

The final thesis bears a credit value of 16 UFC. It is thus imperative that supervising faculty provide specific and rigorous criteria as set out here early on in the process and apply them right from the assessment of thesis topic applications.

Applications for graduate degree thesis approval must be submitted five months before the expected date of graduation if the candidate has accumulated at least 56 credits. Thesis topics must fall within a course in the student's graduate degree study plan.

### Three types of thesis work

In practice, by following the above instructions, students can submit a thesis that will fall under one of the following categories:

- **“theoretical” thesis:** this demonstrates appropriate use of sources and methodological tools, whether from scientific literature or journals. The candidate uses suitable skill in selecting knowledge, in selectively choosing sources, in understanding and describing issues which are open and in critical thinking related to the state of knowledge on the subject;
- **“empirical” or “applied” thesis:** this is a collection of knowledge and empirical evidence that is put together and reworked, and then used in a suitable way for an independent, specific analysis of the field. In this kind of thesis, particular attention is paid first to how suitable and how methodologically rigorous the techniques for data collection and analysis are, and subsequently to the student's ability to develop independent interpretations related to the theoretical and practical issues emerging from the analysis.
- Finally, **a thesis may be partly the product of an internship or traineeship** (called “Curricular Internship for Thesis Work (Tirocinio Curriculare per Tesi)”) which does not otherwise bear any credits, and that the student has selected as a means to collect data and information for the writing of the final project. For this type of thesis, the following conditions must be met:
  - a) the internship or traineeship must contain an activity with professionalising content;
  - b) there is a clear distinction between those activities that pertain to the internship and those that lead to the work for the thesis, since they both fulfill different purposes.

### Calculation of final grade

Determination of the final grade for graduation is based on the grade point average of curricular exams taken throughout the programme (weighted against credits accumulated). Any adjustments or additional credits accumulated in addition to the 120 credits needed to graduate will be counted for the calculation of the grade point average. The grade of “30 with honours” is counted as 31.

## The expected work-load and thesis assessment

The final thesis work carries 16 credits and will be scored on a scale of 0 to 8 points as follows:

- **0 – 2 points:** the thesis is limited to a description and summary of the subject that are already available, and does not add originality or the required personal interpretation and critique.
- **3 – 4 points:** the thesis shows only a partial achievement of the set objectives, and is predominantly focused on descriptive and representational aspects of the general topic.
- **5 – 6 points:** the thesis meets the set objectives and demonstrates effort made to incorporate interpretation, personal and original commentary.
- **7 – 8 points:** an excellent research thesis that meets all required aspects of a scientific work: clear and precise definition of the research question and relevant guiding hypothesis, pertinent use of literary sources and proper and original referencing, clear and explicit presentation – and subsequent use - of rigorous methods of analysis, and clear conclusion and structure of the results of the study that are successfully summarized in a final and independent, reasoned and original conclusion.

*If a score of 7 – 8 points is recommended for an excellent piece of research, the supervising faculty will have to present to the Chair of the Graduation Committee a written, reasoned report in advance. And should the supervising faculty wish to recommend an honours recognition (cum laude) a final decision must be made unanimously by the entire Committee. An honours recognition may not be given solely on the basis of the academic activities undertaken and final average grade; it can only be given if the research thesis is assessed in the 7 – 8 point range.*

Furthermore, should the final thesis present additional merit for the excellent quality of the work, it may be considered for a **final assessment of up to 10 points**. The same process would apply as previously noted. A 10-point assessment and an honours recognition (cum laude) are mutually exclusive and cannot be given together for the calculation of a final grade at graduate degree level.

## The structure of the thesis, presentation and discussion

The content and structure of the thesis work must provide evidence for the supervising faculty to perform a reasoned assessment of the work, and for the final exam panel to reach a judgement based on the criteria already set out above:

- the work must accurately set out one or more problems or research questions dealt with clearly and in an original way;
- the work must show evidence of independent and well thought-out commentary;
- the work must present results that are coherent with the thesis question(s) and must suitably highlight the student's original contribution to how the topic is dealt with;
- the work must be clear and up-to-date in regard to the methodologies used and the bibliographical sources and/or databases used in responding to the research questions and in formatting assessments: it must be emphasised that the bibliographical references listed in the thesis must be sources that have in fact been used and referenced by the student, who must also be able to discuss the content of such referenced material during the discussion.

## Printing guidelines for thesis

The front page of the thesis must have the full name of the student, student identification number, name of degree programme, the thesis title, name of the supervising faculty member, with signature of both student and supervisor. The name of the secondary supervisor need not be printed.

The body of the thesis must be formatted as follows:

- Margins: top 3cm, bottom 3cm, left 3cm, right 3cm;
- Font: Arial 11;
- Line spacing: 1,5;
- Page format: standard A4

The printed thesis submitted to faculty for review must be bound. The standard length for a thesis is about 80 pages. For a thesis that is over 100 pages, it is preferred to have the thesis printed double sided.

Number of copies to prepare for submission:

- 1 bound copy for the Primary Supervisor
- 1 bound copy for the Secondary Supervisor
- 1 digital copia (to be submitted to Student Services – Polo Studenti)

Graduating students must immediately inform their thesis supervising faculty and Student Services (Examinations) if for any reason they are not able to attend the final test/assessment session for which they applied, and in which case a new application for graduation must be submitted.

### **Guidelines for the approval of the final exam thesis topic**

Approval of the final exam thesis topic is given by the selected supervising faculty member who teaches a course that is part of the student's study plan. Application for approval must be submitted at least five months prior to the expected graduation session.

Approval of the thesis topic is subject to the submission of two copies of the dedicated form (one to be kept by the student as record and one for the supervising faculty member). Additionally, students need to complete the procedure for "submission of thesis title" either to the I-catt account.

**Important:** *students are advised to safeguard their copy of their application form, as it will be part of the documents that will be submitted along with the application for graduation.*

### **Pre-requirements for final exam thesis topic approval**

Students must have accumulated a minimum of 56 credits and reached a satisfactory level of competency for any knowledge or competency gap they may have had on their academic record (debito formativo).

### **Application for graduation**

The application for graduation form, signed by the supervising faculty, must be submitted at least 45 days prior to the beginning of the selected graduation session. Both the application for graduation and the thesis topic approval forms must be turned in to Student Services together with a receipt for payment of administrative fees for the issue of the degree diploma, and if applicable for the additional fee due in the case of a final examination scheduled during an extraordinary session, which will have to be paid within a specific timeframe as indicated by Student Services.

Upon application for graduation, candidates will need to have no more than three outstanding exams (with the exception of those that apply to Theology courses).

### **Thesis submission**

All candidates for graduation must submit two printed copies and one digital copy. Upon submission Student Services will stamp, as confirmation of receipt, the 'Statement of Submission of Thesis to Supervising Faculty (Dichiarazione di avvenuta consegna della tesi al Relatore)' which was previously signed by both primary and secondary supervising faculty members. In addition, candidates will submit a completed form stating that they have no outstanding obligations to the Library or Educatt.

### **Important notes**

1. No candidate will be admitted to a graduation session if the deadlines for the graduation application process are not met.
2. Any remaining exams must be passed and registered at least one week before the beginning of the graduation session.
3. Candidates obtain the status of "graduating student" upon submission of their application for graduation for a given final examination session, that is if they have satisfied all curricular requirements to be eligible for graduation. Students who are confident in their completion of their thesis by the last session available for their final programme year will not be required to re-enroll for the following academic year and will not be required to pay the first installment of tuition and university fees. They will however, should they graduate during the extraordinary examination session of



February/March, pay the special administrative fee due for the scheduling of a final examination during an extraordinary session, that is sessions that pertain to exams associated to a programme year that are run the following academic year.

4. Information regarding fees associated to extraordinary examination sessions can be found in the “Regulations for tuition and university fees” at <http://www.unicatt.it/tasse-e-contributi>.

5. Graduating students must immediately inform their thesis supervising faculty and Student Services if for any reason they are not able to attend the final test/assessment session for which they applied, and in which case a new application for graduation must be submitted.

#### **GRADUATION SESSIONS: OVERVIEW OF RELEVANT DEADLINES**

<b><u>Graduation session: 5 November 2020</u></b> <b><u>(Fall session a.y. 2019/2020)</u></b>	
12 June 2020	Submission of the thesis topic
from 2 to 28 September 2020 (both dates included)	Submission of graduation form
23 October 2020	Submission of the thesis and academic transcript

<b><u>Graduation session: 10 December 2020</u></b> <b><u>(extraordinary session a.y. 2019/2020)</u></b>	
15 July 2020	Submission of the thesis topic
from 30 September to 30 October 2020 (both dates included)	Submission of graduation form
27 November 2020	Submission of the thesis and academic transcript

<b><u>Graduation session: 17 March 2021</u></b> <b><u>(extraordinary session a.y. 2020/2021)</u></b>	
21 October 2020	Submission of the thesis topic
from 13 January to 15 February 2021 (both dates included)	Submission of graduation form
5 March 2021	Submission of the thesis and academic transcript

Information regarding deadlines for the graduation session of a.y. 2020/2021 will be made available to the students through the iCatt page.

## ONLINE SERVICES

### Student's personal online page (iCatt)

The student has a personal iCatt web page which provides access to administrative services and information about courses (e.g. timetables, exam sessions, announcements etc.). Through iCatt web page the student can:

- submit the study plan
- apply for exams
- monitor already taken exams and outstanding exams
- update income and tax information.

Moreover, the iCatt homepage will show communications from the Student Services via an online notice board.

The student can access iCatt by logging on <http://icatt.unicatt.it> with his/her personal login and password.

The student can send an e-mail to [gestione.iam@unicatt.it](mailto:gestione.iam@unicatt.it) to receive technical assistance on the access and use of iCatt.

### Teacher's personal page

The student can find information about teachers' e-mail, office hours, courses provided and course programs on the teacher's personal page, available on the University website <http://docenti.unicatt.it>

### Blackboard

Blackboard is a platform accessible at <http://blackboard.unicatt.it>. It is not only a download area of course support materials (slide lessons, exercises, exam topics, ...) but a real online interaction room for students and teachers.

The student can access Blackboard courses directly from his/her I-Catt page.

For more information or questions related to registration to Blackboard, the student can refer to the Help section on the I-Catt page or send an e-mail to [support.blackboard@unicatt.it](mailto:support.blackboard@unicatt.it)

## STUDENT SERVICES AND CONTACT DETAILS

Information about the following services can be found online at <http://roma.unicatt.it>:

- Library: [biblioteca-rm@unicatt.it](mailto:biblioteca-rm@unicatt.it); [documenti.delivery-rm@unicatt.it](mailto:documenti.delivery-rm@unicatt.it); tel. 06/30154057;
- Advising and Tutoring: [orientamento-rm@unicatt.it](mailto:orientamento-rm@unicatt.it) tel. 06/30155720 - 6809;
- Internships and Placement Service: [stage.placement-rm@unicatt.it](mailto:stage.placement-rm@unicatt.it) tel. 06/30154480 - 4590;
- Global Engagement and International Education (international student mobility programmes) [ucsc.international-rm@unicatt.it](mailto:ucsc.international-rm@unicatt.it) 06/30155819;
- ILAB – Centre for innovation and development of university teaching and technologies (ICT courses and Blackboard): <http://blackboard.unicatt.it>;
- SeLdA – University Language Service (language courses): [gerit.beger@unicatt.it](mailto:gerit.beger@unicatt.it) tel. 06/30156812;
- Student Support Services - Disability and Learning Differences (at the Student Services Centre – *Polo Studenti*, regular office hours): [segreteria.disabili-rm@unicatt.it](mailto:segreteria.disabili-rm@unicatt.it); [segreteria.dsa-rm@unicatt.it](mailto:segreteria.dsa-rm@unicatt.it);
- Public Relations Office: [urp.universita@rm.unicatt.it](mailto:urp.universita@rm.unicatt.it) tel. 06/30154203;
- EDUCatt – Università Cattolica del Sacro Cuore Organisation for the right to academic education (health service, student cafeterias, housing solutions, book loans) [info.rm.dsu@edu-catt.it](mailto:info.rm.dsu@edu-catt.it) tel. 06/30155708;
- Pastoral Centre: [centro.pastorale-rm@unicatt.it](mailto:centro.pastorale-rm@unicatt.it) tel. 0630154258;
- On-campus Student Work: [tutordigruppo-rm@unicatt.it](mailto:tutordigruppo-rm@unicatt.it) tel. 0630155723;
- Student Records and Academic Support Services [gestione.carriera.studenti-rm@unicatt.it](mailto:gestione.carriera.studenti-rm@unicatt.it)
- Cultural and Recreational Activities;
- Psychological Counselling Service;
- Youth Health - Front Office.

## GENERAL INFORMATION

### Office hours

Student-teacher meetings are an important exchange opportunity between teachers and students outside the classroom to clarify doubts about the classes and to ask for advice on how to best deal with challenges that the student may encounter. A meeting can be scheduled throughout the academic year according to the instructions on the instructor's personal pages.

### Covid-19 emergency

The information contained in this Guide are referred to ordinary university activity, with physical attendance. If – in connection with the containment of the Covid-19 health emergency - activities and services cannot be provided in full or in part, the University will implement measures and tools (blended teaching, interaction with teachers and tutors remotely through the Blackboard platform and other applications, etc.) to avoid their disruption. All the necessary information will be provided to students through notices on the I-Catt personal page and on the University's website.

## DEADLINE FOR ENROLMENT

The student who enrolls in an academic year is required to pay the enrolment fee within the deadline indicated on the payment slip.

The student who complies with the deadline will be automatically placed in the upcoming academic year as REGULAR (regardless of his/her progression in the curriculum – “in corso”, “repeating” or “fuoricorso”).

The student who wants to change his/her enrolment status (for example from “fuori corso” to “repeating”) or to ask for the transfer to another degree programme must address the Students Center (Polo Studenti).

For the enrolment to Year 2 and after, if the payment is made after the deadline has expired and by 8 January 2021, the student will be ‘IN DEBT OF PAYMENT’ and he/she will have to address the Students Center

**The student who does not comply with the above-mentioned deadline cannot submit the study plan, and will instead be automatically assigned to a study plan that cannot be modified.**

### Enrolment to Year 2 and after (‘in corso’, ‘repeating’ or ‘fuori corso’)

Current students (including repeating students) are required to enrol no later than 7 January of each calendar year.

According to the Tax and Contribution Regulations, a surcharge of € 100,00 will be applied to students who register after the deadline for the submission of the study plan and by the aforementioned date.

‘Fuori corso’ students are required to enrol no later than 15 June of each calendar year. After this deadline, they will be required to pay a recognition fee of 300.00 €, to secure the enrolment

Every student already registered at Università Cattolica del Sacro Cuore and regularly enrolled can download on line: 1) the MAV first payment slip for the enrolment to the upcoming academic year; 2) the general rules about the tuition fees and the income declaration forms.

To secure the enrolment on the following year, the student must pay the first fee. The enrolment is immediately completed on the date of the payment.

The payment is not refundable (art. 4, paragraph 8, Title I "General Norms" of the Teaching Regulations of Università Cattolica del Sacro Cuore and art. 27 of the Student Regulations, approved with R.D. 4 June 1938, n. 1269).

### Study plans

With an exception made for courses with special deadlines, as informed in the notices on the student's personal page I-Catt, the deadline for the submission of individual study plans is set within the deadlines published on the website.

The student who passes the deadline of more than seven days can submit the study plan upon payment of a surcharge whose amount is determined by the Tax and Contribution Regulations.

**The student who does not submit the study plan will not be allowed to register to the exams.**

## EXAMS

The Master's Degree Programme Committee stipulates that students are required to sit all examinations in their study plan of a year before taking examinations in the subsequent year. An exception is made for those exams which cannot be taken if other relevant preparatory exams have not been passed.

Any infringement of the examination provisions will result in the annulment of the exam, which will have to be repeated. The student is required to learn and be familiar with the rules relating to the study plan of his/her degree programme and is therefore responsible for the annulment of those exams that the student has taken in violation of such rules.

According to art. 6, paragraph 6, Title I "General Rules" of the Teaching Regulations of the University (Regolamento Didattico di Ateneo), if the student passes the exam and the Examining Board records his/her result, the student will not be allowed to repeat the exam.

### Exam registration

The student who wants to register to an exam must register through the portal I-Catt within 4 days of the exam date.

If the student decides not to take the exam to which he/she has previously registered, he/she can cancel the registration within 4 days from the exam date.

The simultaneous registration to several sessions of the same exam is not allowed.

#### **The student cannot be admitted to the exam if:**

- he/she does not register for the session within the set deadlines;
- he/she does not submit a valid ID document to the Examining Board.

## COURSE WITHDRAWAL

According to art. 10 of the University Teaching Regulations (Regolamento Didattico di Ateneo), the student can withdraw from the studies at any time.

The student may give up his/her study entitlement by submitting a written notification to the Student Service Centre (Polo Studenti). The notification is binding and cannot be revoked or amended. The study entitlement ends on the date of the notification. An entry thereof will be made in the university records.

The student may be issued with certificates attesting the previous career.

The student who wants to withdraw from the studies must submit two copies of the form available on the University website, affix the revenue stamp to the extent established by law and return the form, the academic transcript and his/her badge to the Student Service Centre (Polo Studenti).

The student who withdraws from the studies must pay the fees and contributions that have expired on the date of the submission of the application for renunciation.

## **PERSONAL DATA**

Università Cattolica has adopted appropriate structural, logical and organisational measures regarding the delivery of its services to ensure respect for patients' rights, fundamental freedom and dignity, as well as patients' confidentiality. One of the specific organisational measures taken is the setting down of a code of conduct to ensure that patient data is kept confidential. This code of conduct applies to both healthcare professionals and University Cattolica staff that handle data/personal information. Students are expected to respect and adopt this code in all academic and professional activities.

The most important rules to follow are the following:

1. all data that comes into your possession should be considered as confidential and, as such, according to law, subject to professional secrecy. Therefore, the code of conduct must be adhered to for each individual work phase so that data is not lost or accessed by unauthorized individuals;
2. data must only be used for the purposes for which they were collected i.e. prevention, diagnosis and treatment, and generally for the protection of the health of the patient;
3. conduct during consultations with patients should be carried out in such a manner that no information which may reveal their state of health comes to the knowledge of a third party;
4. to protect patients' interests, medical records, medical reports and any other documentation that includes health information must be stored in a safe place and in any event in a location that ensures that the information remains confidential. To this end, the information pertaining to the health status of a patient may be disclosed only to the patient or to persons specifically named by the patient;
5. data regarding genetic identity must be handled exclusively within protected spaces accessible only to those dealing with the treatment and to those specifically authorized to access them;
6. the greatest care must be taken with regard to bone marrow donors who, under Law No. 52 dated 6 March 2001, have the right and duty to remain anonymous both to the receiver of the transplant and to third parties.

### **Personal Data Protection Legislation**

#### **(Legislative Decree No. 196, 30 June 2003 - EU Regulation 2016/679 General Data Protection Regulation - GDPR)**

This section gives general information about legislation regarding the protection of personal data as set out in Legislative Decree No. 196 of 30 June 2003, 'Personal Data Protection Regulations' and in EU Regulation 2016/679 General Data Protection Regulation (GDPR). It is a guide for students who come into contact with information about the state of health and the sexual life of a patient while carrying out their studies. This information is usually considered to be the most private and sensitive of personal data since it exposes the individual and may document weaknesses, which may lead to a real risk of social discrimination.

Considering this critical aspect and given all the regulations governing data protection, when students come into contact with sensitive information during the course of their studies they are required to adhere to the code of conduct set out for University healthcare staff responsible for the handling of data.

To ensure that the purpose and aim of the legislation are fully understood, the main points of the regulations are described below.

#### **Purpose of the data protection legislation**

The life of an individual can be contained in a cluster of information which on the one hand can identify the person, but on the other hand, if not properly protected, can expose the person to risk of discrimination because of their particular opinions, religious beliefs or state of health. It is for this reason that the right to privacy is essential in an equal society.

The dynamic changes in technology and culture, and the interconnections between various sectors of today's society e.g. health, finance, telecommunications, politics, business and so on, mean that the concept of privacy has evolved, leading to the emergence of a strong connection between privacy and the right to liberty, equality, dignity, and democracy as guaranteed by the Constitution. The concept has developed to the point that the traditional definition of privacy as 'the right to be left alone' has been superseded.

Article 1 of the data protection legislation establishes in fact that every person has the right to the protection of their personal data. This right is recognised as a new form a personal liberty, or rather the freedom to have control over the dissemination of one's personal data. In the system of protection foreseen by the legislation, therefore, individuals have the right of control over their personal information, the right to confidentiality and the right to a private life — all being expressions of the right to privacy.

### **What is personal data?**

The basic concept on which the legislation is based is the concept of 'personal data' (Article 4, (b), of Legislative Decree No. 196/2003): personal data is any information pertaining to a person, a legal entity, organisation or association, identified or identifiable, even indirectly through reference to any other information, including a personal ID number.

A further aspect of this concept is that of 'sensitive data', which is information pertaining to the utmost personal sphere of an individual, defined in the legislation as personal data which may reveal racial and ethnic origin, religious, philosophical or other beliefs, political opinions, membership of political parties, unions, associations or religious, philosophical, political or union organisations as well as personal data that may reveal an individual's state of health and sexual life.

Of particular interest here are the regulations for handling sensitive data in healthcare situations and the related civil and legal responsibility.

### **What does 'handling personal data' mean?**

In the legislation (Article 4, No. 1, (b)), 'handling personal data' is defined as any operation or group of operations undertaken with or without the use of a computer or an automated procedure, which concern the operations involved in the gathering, recording, organisation, archiving, consultation, processing, alteration, selection, extraction, comparison, use, interconnecting, blocking, communication, dissemination, cancellation and destruction of data even if such data are not recorded on a database.

'Handling personal data' therefore refers to all operations which form part of the life cycle of a piece of information, from gathering to destruction. It is pointed out that even a simple viewing of data comes within the activity of 'handling personal data'.

### **Responsibilities**

Those involved in dealing with personal data as set out in the legislation are as follows:

- The sole holder of ultimate responsibility for handling data, i.e. Università Cattolica del Sacro Cuore, statutory body with no shareholders, whose functions in this regard are performed by the director of the Rome Campus for the Rome Campus and by the director of the A. Gemelli University Hospital for the A. Gemelli University Hospital and all connected facilities;
- Data controllers i.e. the directors of the various departments and institutes who have been given the responsibility of dealing with personal data by the Campus Director and the Director of the university hospital;
- Authorised data processors i.e. all personnel who actually handle personal information whilst carrying out the work.

### **Sanctions**

The legislation provides for the application of severe sanctions for any breach of the regulations, and sets out legal sanctions and a specific set of norms for civil responsibility, as well as specific administrative sanctions.

***Released on September 2020***