

Degree	Type	Year	Semester
4313489 Logistics and Supply Chain Management	OB	2	2

Contact

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Use of languages

Principal working language: english (eng)

Prerequisites

In order to start working on the Master Thesis, the student must have passed the subjects corresponding to the first year and to the specialization semester. In case of a faild exam in the specialization semester, the student will have the chance to retake it before the master thesis period starts.

Objectives and Contextualisation

The Master Thesis is an autonomous academic work that is ultimately intended to deepen the analysis of a topic or area of interest related to the LSCM Master. It is expected that the work will serve to:

- Develop an issue of interest regarding the content of courses taken linking with existing academic or scientific debates;
- Apply the methodologies and techniques learned in the LSCM courses, either to perform own analysis covering an applied or scientific case, or to evaluate other author's proposals.

The main objectives of the Master Thesis are to:

- Apply the skills and competences acquired during their studies for a project in the LSCM field.
- Learn to develop a consistent and clear project achieving results of interest.
- Learn to document, structure and draft a project report.
- (Optional) Learn to write a scientific article and submit it for possible publication in a journal or proceedings of international conferences.

While performing the final project, the student should demonstrate.

- Self-adaption to unforeseen situations.
- To assume the social, ethical and professional liability arising from the professional practise.
- To critically appraise the work done.
- To communicate effectively orally and/or written the knowledge, results and skills in both environments: professionals and to non-expert audiences.
- To develop systems thinking.
- To develop independent learning strategies.
- To develop the capacity of analysis, synthesis and prospective.
- To develop curiosity and creativity.
- To develop critical thinking and reasoning.
- To make efficient use of ICT in communication and transmission of ideas and results.
- To generate innovative and competitive proposals for professional activity.
- To manage the available time and resources by working in an organized manner.
- To plan and implement a project in the LSCM sector.
- To take own decisions.

- To prevent and solve problems.
- To work independently.

Skills

- Address problems of management and coordination of logistics operations in production, transport and services in a holistic approach, by means of the consistent application of the supply chain management concepts and strategies, taking into account the pertinent aspects of environment, human capital, quality, technology, and economics.
- Analyse, organise and discuss situations in logistics in order to identify and model the dependency relationships, influence and impact that usually occur in the main performance indicators and quality factors as well as evaluating their complexity.
- Apply quantitative methods and techniques based on optimisation and/or simulation models in order to evaluate the different alternatives and select the most promising solution to be implemented
- Elaborate solid arguments based on quantitative models and analytical methods in order to convince and motivate decision makers, determine the adequate LCSM partners and then plan and coordinate the project to implement the solution.
- Select and apply the most relevant analytical methodologies, strategies and current technologies for designing solutions to the problems of management and coordination of material, information and financial flows.
- Student should possess an ability to learn that enables them to continue studying in a manner which is largely self-supervised or independent
- Students should be able to integrate knowledge and face the complexity of making judgements from information which, being incomplete or limited, include reflections on the social and ethical responsibilities linked to the application of their knowledge and judgements
- Students should know how to apply the knowledge they acquire and be capable of solving problems in new or little-known areas within broader contexts (or multidisciplinary contexts) related to their area of study
- Students should know how to communicate their conclusions, knowledge and final reasoning that they hold in front of specialist and non-specialist audiences clearly and unambiguously

Learning outcomes

1. Analyse, organise and discuss situations in logistics in order to identify and model the dependency relationships, influence and impact that usually occur in the main performance indicators and quality factors as well as evaluating their complexity.
2. Apply quantitative techniques based on optimisation and/or simulation models to evaluate the different alternatives and select the most promising solution to implement.
3. Approach problems of management and coordination of logistical production, transport and services operations using a holistic focus, with consistent and integrated application of the general concepts and strategies of the supply chain, the pertinent environmental considerations and aspects of quality, technology and economics.
4. Select and apply the most relevant analytical methodologies, strategies and current technologies for designing solutions to the problems of management and coordination of materials, information and financial flows.
5. Student should possess an ability to learn that enables them to continue studying in a manner which is largely self-supervised or independent
6. Students should be able to integrate knowledge and face the complexity of making judgements from information which, being incomplete or limited, include reflections on the social and ethical responsibilities linked to the application of their knowledge and judgements
7. Students should know how to apply the knowledge they acquire and be capable of solving problems in new or little-known areas within broader contexts (or multidisciplinary contexts) related to their area of study
8. Students should know how to communicate their conclusions, knowledge and final reasoning that they hold in front of specialist and non-specialist audiences clearly and unambiguously

9. Work out solid arguments supported by quantitative models and analytical methods to convince and motivate those responsible for decision-making processes, to select the adequate supply chain partners and plan and coordinate the project to implement the solution.

Content

The contents associated with the master thesis depend on its subject and scope. There are three basic types of projects:

- Projects offered by professors from the Master faculty
- Projects developed in collaboration with companies to meet a specific need
- Projects based on proposals made by the student.

In the two latter cases, the student must send to the Master coordinator and/or designated professor the following information:

1. Brief summary of the idea/theme, objectives, scope and a scheme with the literature review.
2. In the student opinion, the professor who considers most appropriate for supervising the work

The necessary guidelines for the preparation of the Master Thesis are given in the methodology section of this document.

The maximum length of the Master Thesis is 40,000 words. The work must be written English.

Methodology

1. The role of the supervisor

Each student will be assigned a supervisor among professors of the LSCM faculty to guide the student in a personalized way in realizing the Master Thesis. A Master Thesis can also be co-supervised by two professors from different LSCM partners. Projects developed in collaboration with a company can also have a co-supervisor designated by the company in addition to the member of the LSCM faculty.

The student must agree with the supervisor(s) the topic for the project. Students should contact their supervisor to arrange meetings held throughout the semester. It is always recommended that students send their supervisor written documents before the meetings.

Once agreed the project subject, the student will make, at least, four deliveries during its implementation:

1. A Work Plan shall contain a description of the problem, the objectives to achieve, methodology, and basic bibliography.
2. A review of the state of the art on the chosen theme and the design that serves to solve the problems considered.
3. A section of experiments/development to validate and verify the methodology or proposed solution.
4. The final version of the report, and the corresponding powerpoint and, where appropriate, the associated code.

2. Development phases

In the development of any academic work, the following tasks must be distinguished:

- Choice and delimitation of the topic and objectives.
- Search for sources and literature: read what has been written about the thesis subject.
- Drawing of the structure: sort the ideas.
- Conceptual clarity, analysis and argumentation.
- Writing drafts and the final version.
- Care the formal presentation.

- Citations, bibliography and plagiarism.

Choice and delimitation of the topic and objectives

It is not always an easy or automatic process. Usually it starts maturing the various possibilities, which in this first phase are often too large to be addressed in a single work. So, start by delimiting the subject of study when delving into the chosen field. In order to delimit the object of work, it is worth to identify the different aspects and facets of the topic of interest. The Master Thesis should focus on a specific question.

Search for sources and literature: read what has been written about the thesis subject

The first step to obtain information on a topic usually is to perform a literature search in the library catalogue. The student has computer access to the various libraries at the LSCM consortium.

In the first instance, the student should consult the most recent and general literature and then limiting it according to the interest. A common practice to find literature on a topic is to consult authors and works that in turn are cited by authors we read. Thus, sometimes it is enough to find a couple of good references on a topic (especially if they are recent), so other earlier works on the same topic will appear cited.

The bibliography serves for different purposes when carrying out the work. First, querying works of others allows us to delimiting the subject under study. It also provides information on how it has been previously studied this topic: concepts used, provided explanations, used theoretical approaches, and methods of applied analysis. In addition, in the consulted works we find interesting facts and arguments to support our claims in the work we do.

Drawing of the structure: sort the ideas

It is difficult to give general guidelines for determining the structure of an academic work, as it largely depends on the topic in question and the preferences of the author. There is always more than one possible structure; it is the author duty to assess the advantages and disadvantages of each option. Often the work structure is modified as it progresses in its execution. But it is essential to start from an initial structure.

The structure of a work is reflected in the chapters, sections and subsections in which the exposition is ordered. To move forward in its development it is worth to make various schemes where deciding which are the most important aspects of the subject matter, which will become chapters. Within each chapter, it can be distinguished in turn the different issues which are the sections or subsections. To guide the reader is recommended numbering the different parts of the structure.

In addition to the core of the work whose structure varies depending on the subject of study, there are two parts that should always appear in the thesis report: the introduction and conclusions. The introduction presents the topic, the objectives and scope of work set out. You can also briefly describe the structure and the way in which the work is performed to achieve these objectives. The conclusion part summarizes the main findings or fundamental points of the work. You can also add some thoughts about the fundamental points that may constitute a topic for future work.

Conceptual clarity, analysis and argumentation

In the work it must be clear what is the meaning of the terms used, particularly if they are controversial. However, it is not a good idea to articulate the thesis only around a conceptual debate. It is not a matter of creating new definitions but knowing those that are found and, as far as possible, adopt the existing concepts to advance in the arguments clearly. From reading, reflection, and if it is the case, the analysis of the data we have, we will develop the content of each of the sections and the fundamental ideas that we hold. It is imperative for our claims to be grounded in data and/or solid arguments from a methodological approach.

Writing drafts and the final version

To do a good job generally requires writing several drafts to reach the final version. In these successive versions we will make decisions regarding the location of the information, assigning it to one or other section, and even varying the structure of work. Additionally, in this process we improve the wording, so that an efficient transfer of ideas is achieved. Do not consider drafting work as a superficial task, since words are the

vehicle of the ideas that we transmit. What is judged from a work is what emerges from reading it and so should you care to the maximum its writing.

References and comments should be made to the information contained in tables, figures, and graphs. Sometimes you can make summary tables of findings or of the analysis scheme. These tables are not a substitute for the explanation of the text, but are used to complete and better convey the author's ideas, giving a global view.

The writing style logically depends on each person. However, in general, it is advisable to limit to the maximum any poetic license and to use an as neutral, clear and impersonal style as possible. The most personal styles are suitable for other areas, but not for academic work.

The wording must take into account the citations. An academic work has to identify and acknowledge sources when:

- exactly passages from another author's work (using quotation marks) are cited;
- passages from the work of another author are summarized;
- data, methods or information contained in other works are used;
- or ideas or contents developed previously by other authors are used.

Care the formal presentation

When developing any work is essential to have formal consideration of the following aspects:

- The work is presented typed, bound (no clips), and with all pages numbered;
- On the cover the full name of the author and tutor, date, degree, and the title of the work must be clearly marked (a template is provided);
- After the cover sheet comes the certification sheet of the work supervision (a template is provided) and then the index of the work
- The tables, figures, tables and graphs that are included must be numbered, titled and indicating the sources when appropriate.
- At the end of the work report, a relationship of the literature and other sources used for the work must be included.
- You should check spelling and perform various readings of the final version for errors.

It is very important to look after the general formal presentation of work. This has nothing to do with the use of a high quality paper (recycled paper is perfectly valid), or use seven different colours (except for graphics whose reading is facilitated by the use of colours). It is important to use uniform styles to clearly identify chapters, sections, subsections, notes, and so on.

These aspects are essential conditions for a Master Thesis to be evaluated. Therefore, Master Thesis with formal defects will not be evaluated.

Citations, bibliography and plagiarism

Whenever an idea or information that has not produced oneself is used, its source must be cited. This practice is essential and critical for two reasons:

- The honest student or researcher acknowledges ideas that are not yours; otherwise would be committing plagiarism.
- The author offers its readers the chance to go to the original sources to verify the information or to complete it.

A thesis that is not citing references in the right way will not be evaluated. The cases of plagiarism will entail the automatic failing of the work.

It is considered plagiarism (<http://www.plagiarism.org/>):

- Presenting the work of others as the own work;
- Adopt words or ideas of others without proper recognition (i.e., without citing);

- Not use quotes in a literal quotation;
- Give incorrect information about the true source of a quotation;
- Paraphrasing a source without mentioning the source (i.e., without citing);
- Abusive paraphrasing, even if the source is mentioned (i.e., the "rehash")

The thesis reports must include the following signed declaration right after the front cover:

Declaration of Honour

I hereby declare that I am the sole author of this master thesis entitled <<Title goes here>>, in cooperation with the company <<company name if appropriated>>. This thesis is the result of my own work and I did not receive any help or support from commercial consultants. I declare that I only used those resources that are referenced in the work. All formulations and concepts taken from printed, verbal or online sources be they word-for-word quotations or corresponding in their meaning are quoted according to the rules of good scientific conduct and are indicated by footnotes, in the text or other forms of detailed references. Support during the work including significant supervision is indicated accordingly.

Furthermore, I confirm that this thesis has not been yet submitted as part of another examination process neither identical nor in similar form.

I am aware of legal consequences of a false declaration of honour.

Activities

Title	Hours	ECTS	Learning outcomes
Type: Supervised			
Elaborate the work plan	20	0.8	6
Validation of the methodology to be applied	30	1.2	7
Type: Autonomous			
Development of the state of the art and of the original methodology	500	20	1, 2, 3, 4, 5, 6, 7, 9
Dissertation writing	200	8	8

Evaluation

At least, two examiners will evaluate the Master Thesis. The partner university where the student is assigned to do his Master Thesis designates at least one of the examiners. At least one of the examiners belongs to any of the other partner universities.

The defence takes place at the university where the Master Thesis got submitted. The physical presence of student is required but, exceptionally, student can run examination remotely in the presence of company supervisor. The second examiner might attend to the defence per video conferencing.

The Master Thesis will be evaluated on the basis of the written report and the oral presentation. In order to achieve consistency in evaluating Master Theses, the guidelines and assessment criteria of the partners are checked and integrated into a common framework. This uses percentages that form the basis for the grading schemes used in the various countries. The framework is designed to guide the assessment but leave some flexibility for interpretation, at the discretion of the assessor.

The following table shows the evaluation criteria:

	Weight
Scientific approach and results	40%
<ul style="list-style-type: none"> • Definition of goals, research question • Quality of results • Achievements, applicability • Literature research 	
Structure of the thesis and problem-solving cycle	40%
<ul style="list-style-type: none"> • Structure and consistency • Problem definition • Alternative solutions • Decision process • Competences used • Application of methods and tools • Initiative and creativity 	
Design and formal aspects	20%
<ul style="list-style-type: none"> • Completeness • Formal structure • Layout • Visualization, tables • Writing style and language • Citation • Oral presentation 	

Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Dissertation presentation (written and oral)	20%	0	0	8
Master thesis contents	80%	0	0	1, 2, 3, 4, 5, 6, 7, 9

Bibliography

Will depend on the work topics