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Erasmus project: EUROPEAN MASTER DEGREE IN LOGISTICS

# ANALYSIS OF THE TRAINING OFFER IN LOGISTICS



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## Erasmus project: EUROPEAN MASTER DEGREE IN LOGISTICS

### 1. INTRODUCTION.

The trend observed in Spain, as well as in the other countries in Europe, it is clearly defined: the logistics sector is claiming, during the last years, well trained professionals to carry out positions of responsibility inside logistics operators, manufacture companies, distribution chains, etc. For that reason it's appearing a great demand of logistical personnel highly and well prepared.

So it is necessary to foment the training of logistics professionals, overalls now that the flow of goods trend to be increased within the market globalization, as much in Europe as all over the world. At the present time, the logistics sector tendency presents an increasing demand of logistics professionals, which will be prolonged during the next years. For that reason, there is a necessity of training and formation initiatives, courses, degrees, specializations and masters, like certain private organisms have begun to develop, for example CEL (Centro Español de Logística -Spanish Center of Logistics-), and the Spanish Universities, as well as in the rest of the countries in Europe. These centres are key to foment the formation and training in logistics.

A good logistics allows the company to be much more competitive, specially now, where clients are more demanding and exacting every time. That a good reason for universities to think about and to define formation courses and specific training for professionals, where the balance between practice and knowledge is fundamental.

### 2. OBJETIVES.

This report wants to offer a panoramic vision of the current situation and main trends in formation and training in logistic courses, existing in the different participant countries in the Erasmus Project, as well as in other countries of the European Union, in order to have a better and wider vision of the current state of the formation in logistics in the European environment.

But this report, besides the general vision about tendencies and current state of the present courses in logistic, has the purpose of develop a summary of all the studies made by each University in its country. This summary includes: programs structure, costs, centres in which they are imparted, duration, location, objectives, etc.

Finally this summary will allow the consortium members to know like the courses masters are developed , and starting working from this point, how to raise new ideas for the future master program structure to develop.

**Erasmus project: EUROPEAN MASTER DEGREE IN LOGISTICS****3. COURSES IN LOGISTICS:  
CHARACTERISTICS AND REQUERIMENTS.**

After the analysis of the master courses in logistics developed in different European countries, analysis made by each one of the project members, it was detected the existence of a formal structure and presentation in all the courses that were analyzed.

This course' structure let each member to make comparative tables of the characteristics of these courses (including in the final sections), to establish a wide vision of the different existing courses in Europe through the characteristics listed.

This structure is shown in the next table:

<b>OUTLINE OF THE COURSE</b>	General guidelines are defined for the specific course, which will be developed during a certain period of time
<b>PRESENTATION</b>	It's presented a brief introduction to the concept o main topic of the course, which is related closely to the study's program or student's environment.
<b>STUDENTS</b>	It's presented a description about the requirements the participants or the students should possess: basic knowledge or minimum levels of study and formation.
<b>PROGRAM OBJECTIVES</b>	The general objectives are explained, in order to reaching them through the development of the contents along the course
<b>FUNDAMENTAL UNITS</b>	There are identified the topics of the units, that will be imparted in the program of the course.
<b>METHODOLOGY</b>	Specific orientations about the work rules and the communication services used in the course for its development
<b>EVALUATION</b>	Description of the main approaches that will be used to evaluate the educational process: test, exams, exercises, final project,...
<b>TRAINING GROUP</b>	There are established the teachers and participants in the course: <ul style="list-style-type: none"> <li>• Program's direction</li> <li>• Coordination</li> <li>• Teachers</li> </ul>
<b>ORGANIZATION OF THE COURSE</b>	<ul style="list-style-type: none"> <li>• Duration</li> <li>• Degree and Complements</li> <li>• Fees</li> </ul>



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### 4. TRAINING OFFER IN LOGISTICS.

Starting from the defined points previously, each participant country in the Erasmus Project made a study for the analysis of the supply of courses related (directly or closely) to Logistics, mainly supplied by universities and private centres working together with them, as well as many of them are promoted and supported by organisms that improve the logistic sector.

In next points it is made a brief description of the analysis in logistics training and the courses found by each country.

#### 4.1. MASTER COURSES IN SPAIN-

The study made by the Polytechnic University of Cartagena about the Training Courses in Logistics in the Spanish Universities was made in several stages or steps.

The search of courses in the universities was centred in the courses of Postgraduate, Specialization, Masters and Expert Degree. In order to complete this study also another courses were considered, although they were offered in other Formation Centres.

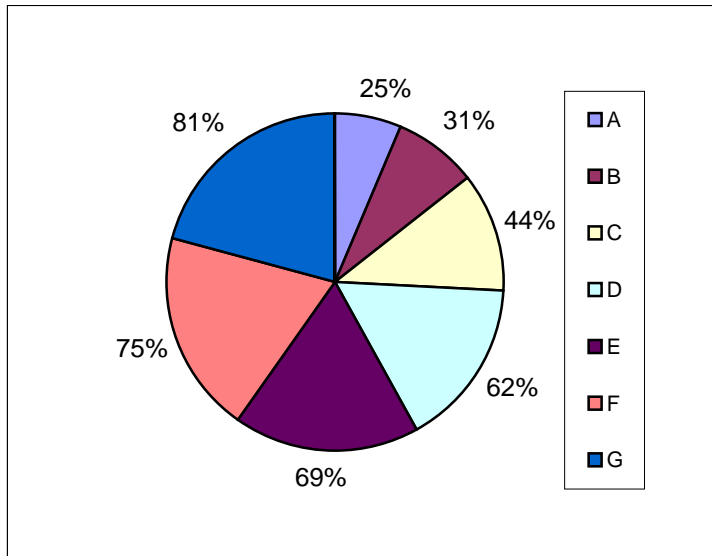
The results are the following:

- **9 Spanish Universities** offered courses of Graduate, Specialization, Master and Expert degree.
  - 11 Courses offered 5 Master degree
  - 5 Specialization degree
  - 1 Postgraduate degree
  - 1 Expert degree
- **Formation Centres**
  - CESTE-CEL
  - ENAE
  - ILI FORMACION

The Cartagena's work group analyzed the modules or subjects that form a course, and after that it was examined how many times a module appeared in a course, and in which courses appeared, as we can see in the next figure:



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**A:** Economy, Politics and Law, Special Logistical Processes, Logistical Infrastructures

**B:** Operation Research, Transport Management, Reverse Logistics. and Environmental Management, Human Resources in Logistics, Labour Risk Prevention

**C:** Information Log. Systems, External Commerce

**D:** Warehouses Management

**E:** Manufacturing Logistics, Procurement Logistics

**F:** TQMG: Introduction, Logistics of Distribution and Transport

An analysis of the structure of these courses was made, obtaining the following conclusions:

- **All of the courses are modular**
  - Only compulsory modules (12 Courses)
  - Compulsory and Optional modules (2 Courses):
    - Oviedo University (13% Optional Modules)
    - Zaragoza University (12% Optional Modules)
- **Project and/or Practices**
  - It's developed in all Master, Specialization and Expert degrees.

In order to complete the study, it was also considered the amount of hours and the cost of each course analyzed.

Finally the Spanish group made a SWOT analysis (Strengthens, Weaknesses, Opportunities and Threats), because it is a very useful tool to summarize the most important and excellent (internal and external) aspects, which affect the development of the course we are defining.

### 4.2.MASTER COURSES IN GERMANY.

The study made on the supply of master courses in Logistics in Germany, has been centred in the next detailed points:

- Logistics courses, in Germany, offer a title or degree in Logistics when most of the course or modules of this one are referring to the logistics area, or when Engineering or Management courses have a great component in Logistics.



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- The titles obtained in these courses are guaranteed by institutions or private organisms (for example: ELA levels of proficiency) or public organisms (State).
- Methods of Course Delivery:
  - Classroom lectures, including ("academic") case studies
  - Individual project work (thesis)
  - Many courses include group projects
  - A few courses have business games (Dortmund, Bremen)
  - LogEduGate - Web platform for content delivery & communication
  - Part-time courses (at Dresden and Bremen) have elements of distance learning (written materials and recommended readings to be studied at home).
- The study shows the frequency of occurrence in the 17 courses of the sample.

### 4.3. MASTER COURSES IN THE UNITED KINGDOM

The study made by the Erasmus Project group belonging to the Cardiff University presents the following results:

- 10 UK universities with relevant Master Programmes (e.g. Logistics, Supply Chain Management)
- 8 UK universities with related Master Programmes (e.g. Transport, Diplomas)

The analysis of the courses or programs supplied by the universities of Aston, Cardiff, City, Cranfield, Heriot-Watt, Huddersfield, Plymouth, Liverpool, Warwick and Westminster has been made through a fixed list of modules or fundamental blocks:

- **Technology**
- **Process**
- **People**
- **Finance/Policy**
- **Quantitative Methods**

As well as the following criteria were observed in the analysis :

- **Dissertation**
- **Core / elective modules**
- **Duration**
- **Entry requirements**
- **Cost**

The results and all the information referring to the courses are shown in section 5 of the present document.



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### 4.4. MASTER COURSES IN THE BENELUX.

Within the study or analysis of the master courses the Cardiff University has made, it has been also looked for master courses masters offered in the BENELUX countries.

Finding a total of new four courses:

- 3 courses with a relevant masters programmes
  - 2 courses offered jointly with a UK university
- 1 course starting in 2005
- Finally, to point out a course employing students (Professional Doctorate)

### 4.5. MASTER COURSES IN SWEDEN

The study made in Swedish Universities by the Linköping University about courses master offered there, shows three courses related to Logistics Management:

- Master's Programme in Manufacturing Management, at Linköping Institute of Technology.
- Supply Chain Design and Management, and Management of Logistics and Transportation, at Chalmers University of Technology.

One of these courses is developed by the Linköping University (consortium member of the Erasmus Project). The duration of this program is 18 months, and it is focused on the following subjects:

- **Product and Process Technology**
- **Operations Management**
- **General Management**
- **Manufacturing Simulation**

The courses imparted by Chalmers University of Technology present the following characteristics:

- **Supply Chain Design and Management**, centred in:
  - SUPPLY CHAIN DESIGN AND MANAGEMENT
  - PHYSICAL DISTRIBUTION
  - PRODUCTION IN INDUSTRIAL NETWORKS
- **Management of Logistics and Transportation:**  
This program has at lot of collaboration with a corresponding program at the School of Economics and Law at Gothenburg University



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**4.6. MASTER COURSES IN SLOVENIA**

The courses master offered in Slovenia is oriented towards Logistics Management and Transport, which are imparted in two universities of the country:

- Maribor University, located in the North.
- Ljubljana University, located in the Centre of Slovenia.

These courses have a common methodology, centred in 5 basic modules:

- **QUANTITATIVE METHODS,**
- **TRANSPORTATION TECHNOLOGIES,**
- **FINANCE, LEGISLATION & INSURANCE**
- **TRANSPORTATION POLICY**
- **MANAGEMENT AND HUMAN RESOURCES.**

Explicitly, The courses offered by two universities are the following:

Ljubljana University	<ul style="list-style-type: none"> <li>- Faculty of Economics: <b>Operational Research and Business Informatics</b></li> <li>- Faculty of Maritime Studies and Transportation: <b>Traffic and Transportation Science</b></li> <li>- (combination of courses is available)</li> </ul>
Maribor University	<ul style="list-style-type: none"> <li>- Faculty of Organizational Science: <b>BUSINESS</b></li> <li>- Faculty of Business and Economics: <b>BUSINESS</b></li> <li>- Faculty of Civil Engineering: <b>TECHNOLOGY</b></li> </ul>

These courses show the main studies and the position of the school or faculty that offered them.

The courses consist of 90 credits, distributed during two years between compulsory and optional subjects, as well as the accomplishment of a work or final project of 30 credits.

Las perspectivas para los próximos cursos son las siguientes:

- Reducir los cursos de 4 a tres años
- Programas master de 2 años (full-time)
- Provocar un mayor intercambio internacional y una mayor flexibilidad de los programas en la Universidad.

The perspective for the next courses are the following ones:

- To reduce the courses from 4 to 3 years.
- Master Programs of 2 years (full-Time)
- To cause a higher international interchange and more flexibility of the university programs.





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**5. MASTER COURSES: CARDIFF**



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## **6. MASTER COURSES: CARTAGENA**



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**7. MASTER COURSES: GERMANY**



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**8. MASTER COURSES: LJUBLJANA**