Escola Superior Náutica Infante D. Henrique
Departamento de Transportes e Logística

Bachelor in Transport Management and Logistics

(Syllabus)

ENIDH, July 2012

Bachelor in Transport Management and Logistics

1º ANO

	CH	ECTS		CH	ECTS
Linear Algebra	4	5,0	Mathematical Analysis II	5	6,0
Mathematical Analysis I	5	6,0	General Accounting	4	6,0
General Management	3	4,0	Economics	4	5,0
English	3	4,0	Business English I	3	4,0
Introduction of the Study of Law and Labor Law	4	4,5	Programming	4	5,0
Transport Technologies	4	6,0	Transports' Safety	4	5,5
Totals	**23**	**29,5**	Totals	**24**	**31,5**

2º ANO

	CH	ECTS		CH	ECTS
Operations Management and Quality	4	5,0	Transports Law	4	5,0
Strategic Management and Marketing	5	5,5	Transports Economics	4	5,0
Financial and Investment Analysis	5	5,5	Transport Infrastruture	4	5,0
Business English II	4	4,0	Operations Research	4	5,5
Probability and Estatistic	4	5,0	Logistics I	4	5,5
Information Systems / Information Technologies	4	4,0	Organizational Behavior	2	4,0
Totals	**26**	**29**	Totals	**22**	**30**

3º ANO

	CH	ECTS		CH	ECTS
Warehouse Management	4	5,0	Transports Ambiental Management	4	5,0
Logistics II	4	5,5	Project Management and Decision Support Systems	3	5,0
Cargo Systems and Transportation	4	5,0	Supply Chain Typologies	4	5,5
Economia do Transporte Rodoviário [a]	4	4,5	Transport and Physical Distribtion	4	5,5
Maritime and Port Economy [a]	4	4,5	Intermodal Transports	4	5,5
Fleet Management [a]	4	4,5	Commercial Management of Road Transport [b]	4	4,5
Port Management [a]	4	4,5	Port and Maritime Commercial Management [b]	4	4,5
Technical Ship Management [a]	4	4,5	Port Information Systems [b]	4	4,5
Marketing Services [a]	4	4,5			
Totals	**20**	**24,5**	Totals	**27**	**35,5**

Legenda:
CH: Contact Horas semanais de Contacto; ECTS: European Credits Transfer and Accumulation System
(a) Optional course units, the students must chose two of them
(b) Optional course units, the students must chose two of them

Escola Superior Náutica Infante D. Henrique
Departamento de Transportes e Logística

1st year of studies

1st semester

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Linear Algebra		
Field:	Basic Science		
Course code:	3149	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	1st	**Semester:**	1st
ECTS:	5,0	**Hours/Type (T/P/TP):**	4h / TP
Name of lecturer:	Luís Cruz-Filipe		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Understanding and applying basic concepts of Linear Algebra necessary to other courses. Solving systems of linear equations by means of Gauss's Elimination Method, as well as problems leading to such systems. Mastering algebraic operations on matrices and calculus of determinants. Working with linear spaces and linear transformations and applying the learned techniques to problem solving in Engineering. Solving optimization and approximation problems by means of computing orthogonal projections.

Course contents:

1. Systems of linear equations: Gauss's method, solving and classification of systems and their geometrical interpretation.
2. Matrix calculus: algebraic operations and applications to the resolution of systems. Inversion, determinants and properties.
3. Linear spaces: vector spaces as generalizations of IRn. Examples: matrix spaces and function spaces. Algebraic properties. Linear subspaces. Linear dependence and independence, linear space generated by a set of vectors, base, dimension, coordinates and choice of base. Spaces related to a matrix: lines, columns, kernel. Relationship to the resolution of systems of linear equations. Euclidean spaces: inner product, norm, orthogonality, Gram—Schmidt method and applications.
4. Linear transformations: definition, properties, examples, algebraic operations and composition. Matrix representation. Properties of a transformation vs properties of its representations. Choice of base. Eigenvalues, eigenvectors and diagonalization.

Recommended reading:

- Apontamentos de Álgebra Linear. Luís Cruz-Filipe & Patrícia Engrácia. Escola Superior Náutica Infante D. Henrique, September 2010.
- Elementary Linear Algebra. H. Anton & C. Rorres, John Wiley, 2000.
- Algebra Linear. Luis T. Magalhães. Texto Editora, 1996.

Teaching methods:

Classes include a brief theoretical exposition of each topic, practical examples of applicability and exercises. Students are given weekly exercise lists for home practice.

Assessment methods:

1. Continuous assessment, including:

(a) 12 assessment assignments, to be delivered weekly, allotted 10 minutes each, graded on a scale of 0 to 20, of which the arithmetic average of the 10 best is computed (ST). Each undelivered assignment is graded as 0 (zero).

(b) Final global test, allotted two hours, consisting of three question groups of which the student must choose two to answer, graded on a scale of 0 to 20 (FT).

(c) The student will pass the course whenever FT>=8.0 and 0.3*ST+0.7*FT >= 9.5 simultaneously, the final grade being then computed as (0.3*ST+0.7*FT) and rounded to the nearest integer.

(d) Students that deliver three assignments are considered to have chosen the continuous assessment method, and will not be allowed to change their choice before the semester's end. 2. Final exam, allotted three hours, containing three question groups and graded on a scale of 0 to 20 (E). The student will pass the course whenever E >= 9.5, the final grade being then computed as E rounded to the nearest integer.	
Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Mathematical Analysis I		
Field:	Basic Science		
Course code:	3150	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	1st	**Semester:**	1st
ECTS:	6,0	**Hours/ Type (T/P/TP):**	5h / TP
Name of lecturer:	Maria Elisa Pissarra do Amaral Cunha		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

To give the students the concepts, the techniques and the suitable reasoning in the Mathematical Analysis área, with special incidence in the differential and integral calculus in R, to prepare them to develop the necessary capabilities to construct mathematical models with one variable to simulate real case studies in the management area and so that they can evolve for the differential and integral calculus in R^2.

Course contents:

1. Sequences and series (15 hours)
   - 1.1. Sequences. General notions. Limits and convergence.
   - 1.2. Numerical series. Examples. Convergence criteria of a series. Power and function series. Convergence radius
2. Functions of real variable (25 hours)
   - 2.1. Domain of a function. Limit and Continuity definitions
   - 2.2. Differential Calculus in R. Derivatives and their applications. Determination of minima and maxima. Graphic representation of functions
3. Integral calculus (35 hours)
   - 3.1. Primitives
   - 3.2. Integral calculus and applications
   - 3.3. Improper integrals

Recommended reading:

- Cunha, Maria Elisa. "*Apontamentos Análise Matemática I*". Associação Estudantes ENIDH
- Cruz-Filipe, Luís; Engrácia, Patrícia. "*Análise Matemática I*"
- Anton, Howard; Bivens, Irl; Davis, Stephen. "*Calculus*", 8th Edition. John Wiley & Sons, Inc. ISBN 0-471-48273-0.
- Larson, Ron; Hostler, Robert P.; Edwards, Bruce H.. "*Cálculo*", Vol. I, 8.ª Edição. Hill Interamericana do Brasil, Lda. ISBN: 0-618-50298-X.
- Stewart, James. "*Cálculo*", Vol. I, 5ª Edição. Tradução de António Carlos Moretti e António Carlos Gilli Martins. Austrália: Cengage Learning. ISBN 85-221-0479-4
- Spivak, Michael. "*Calculus*", 3rd Edition. Cambridge University Press. ISBN:978-0-521-86744-3
- Harshbarger, Ronald; Reynolds, James. "*Matemática Aplicada: Administração, Economia e Ciências Sociais e Biológicas*", 7ª Edição. Tradução de Ariovaldo Griesi e Oscar Kenjiro Asakura. McGraw-Hill: São Paulo. ISBN 85-86804-84-3.

Teaching methods:

The teaching methodology includes theoretical-practical lectures. It is also expected that the student prepare themselves by reading each topic in the recommended readings. In the lectures the students will be given brief exposition about the topics, followed by examples and exercises. The students are

also given weekly exercises to solve at home.	
Assessment methods:	
The student can choose between two tests during the semester or a final exam. The final score (FS) results from: FS= 0.5(ST1+ST2) or FS=ES	
Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	General Management		
Field:	Economics & Management		
Course code:	3151	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	1st	**Semester:**	1st
ECTS:	4,0	**Hours/week:**	3h / TP
Name of lecturer:	Cecília Margarida Martins		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Understand the concepts and basic principles of management.

Understand how economists think when confronted with basic economical problems, through learning of the fundaments of corporate management. Familiarize the students with the systemic nature of the economical growth processes, relating technological innovations with business strategies and institutional innovations.

Conceptualize the action, the abilities and functions of the manager and his functions on global management environment.

Knowledge on the application of concepts, principles and basic tools of economical analysis.

Introduction of contemporary themes of competitiveness, entrepreneurship and innovation, ethical and social corporate responsibilities.

Course contents:

1. Brief Approach to Elementary Principles of Economic Science
   - 1.1. Economics as a social science
   - 1.2. The creation of wealth and its distribution
   - 1.3. Natural resources versus human needs
   - 1.4. Primary, secondary and tertiary sectors
   - 1.5. Link between macro and micro economies
   - 1.6. Global flows of Political Economy
   - 1.7. Flows of Private Enterprise Economy
   - 1.8. Markets for goods and services
   - 1.9. Markets for production factors
   - 1.10. The economic circuit
   - 1.11. Market Economy System
2. Corporate' study
   - 2.1. Organization dedicated to producing goods and services
   - 2.2. Corporations as threefold reality: human, social, and economic
   - 2.3. Elements and purposes of the Corporations
   - 2.4. Functions of the Corporations
   - 2.5. The forces that affect business activity
   - 2.6. Companies and their modus operandi in the market
   - 2.7. Definition of Market (client)
   - 2.8. Cost, Price and Profit

2.9. Business structures: different types, advantages and disadvantages

3. The Company and the Internal and External's means
   - 3.1. The evolution of the concept of organizations throughout the ages: F. Taylor M. Porter
   - 3.2. The currents of thought which marked the most entrepreneurial activity
   - 3.3. Ages of production, sales and marketing
   - 3.4. Study of the internal environment
   - 3.5. SWOT Analysis
   - 3.6. Built-in Diagnostics
   - 3.7. Internal marketing
   - 3.8. Study the external environment
   - 3.9. Global environment
   - 3.10. Specific environment
   - 3.11. Customers
   - 3.12. Competitors
   - 3.13. Suppliers
   - 3.14. State
   - 3.15. The attractiveness of a sector of activity
   - 3.16. Business' ethics
   - 3.17. Social responsibility
   - 3.18. Organizations worldwide economic
   - 3.19. Globalization

4. Management
   - 4.1. The fundamental concept of Management
   - 4.2. Empirical management
   - 4.3. Rational management
   - 4.4. What a good manager should not be
   - 4.5. The work areas of the modern manager
   - 4.6. Management' pillars: Organize, Planning / predict, Inform / report, Motivate, Integrate, Control, Lead
   - 4.7. The strategic planning applications and limitations
   - 4.8. The results
   - 4.9. Decision-making
   - 4.10. The art of negotiating

5. General themes
   - 5.1. ABC Analysis
   - 5.2. Management information from the accounting registrations
   - 5.3. Creation of Companies
   - 5.4. Micro, small, medium and large businesses
   - 5.5. The arrangements
   - 5.6. Knowledge of the markets where the companies act
   - 5.7. The formalization of business companies
   - 5.8. The different types of Companies
   - 5.9. The Corporate Governance
   - 5.10. Preparation and coordination of meetings

5.11.Knowledge of the markets where the companies operate
Recommended reading:
· *CHIAVENATO, Idalberto; (2004); Introdução* à Teoria Geral da Administração, Editora Campus, Brasil · Caderno de apontamentos elaborado pela responsável da unidade curricular.
Teaching methods:
Theoretical-practical classes with media support with student's active participation throughout interventions. Presentation and discussion of concrete situations as a way of consolidating the learning results.
Assessment methods:
1st option: Realization of 2 summative tests (50% each). Minimal attendance of 70% at practical lessons. Minimum score: 8/20 Average score: 10/20 2nd option: Final exam.

Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	English		
Field:	Social sciences		
Course code:	3152	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	1st	**Semester:**	1st
ECTS:	4,0	**Hours/ Type (T/P/TP):**	3h / T
Name of lecturer:	Mercia de Wet		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Students taking this course will be introduced to the terminologies and vocabulary related to the Maritime sector. The course also aims to develop the students' comprehension of texts and their written and oral competencies, so as to build a solid foundation from which they will be able to excel in their subsequent studies, and from which they will be able to learn to communicate effectively within the Maritime environment, in English.

This course aims therefore to be an integrated course focusing on the development of all four of the language skills (listening, reading, writing, speaking), but always as these skills would be applied in the Maritime context.

Course contents:

Unit 1: Introduction to maritime transport and marine technologies

1. The different activities in the maritime sector
   - 1.1. Reading comprehension and vocabulary
   - 1.2. Grammar practice: The present simple – negative, interrogative and irregular verbs
2. Markets and business partners
   - 2.1. Vocabulary, present simple review
   - 2.2. Grammar practice: The present continuous – negative, interrogative, and as a future tense
   - 2.3. Discussion and role-play
3. The ship as a unit of production
   - 3.1. Vocabulary
   - 3.2. Grammar practice: The future with "will" and "going to"
   - 3.3. Listening with worksheet and discussion
4. Organisation and responsibilities on board a ship
   - 4.1. Vocabulary
   - 4.2. Grammar Practice: Modal verbs
   - 4.3. Writing Exercise

Unit 2: Types of ships and cargoes

5. Liner and tramp ships
   - 5.1. Reading comprehension and vocabulary
   - 5.2. Word forms – nouns, adjectives, adverbs
   - 5.3. Descriptions using adjectives, and the comparative form
6. Basic types of ships
   - 6.1. Vocabulary and listening exercise with worksheet
   - 6.2. Writing exercise – descriptions with the superlative adjective and the prepositions "to" and

"for" to express purpose

7. Types of cargo, stevedoring
   - 7.1. Vocabulary and reading comprehension
   - 7.2. Grammar practice: Present simple vs. past simple, irregular verbs
   - 7.3. Speaking exercise
8. Unloading and loading operations on a ship
   - 8.1. Vocabulary and reading comprehension
   - 8.2. Grammar practice: Past simple vs. present perfect simple
   - 8.3. Writing exercise

Unit 3: Types of ships and cargoes

9. Ship yards and related businesses. The ship building process
   - 9.1. Vocabulary and reading comprehension
   - 9.2. Grammar practice: The passive voice, time clauses
   - 9.3. Listening exercise with worksheet
10. Terminology of the different parts of the ship
    - 10.1.Vocabulary
    - 10.2.Prepositions of place, articles
    - 10.3.Listening exercise with worksheet
11. Dimensions of the ship, GRT, NRT, GT, etc
    - 11.1.Reading comprehension
    - 11.2.Vocabulary – units of measurement, numbers

Unit 4: Onboard equipment

12. Propulsion plant and auxiliary systems
    - 12.1.Vocabulary and reading comprehension
    - 12.2.Grammar practice: Causal verbs
13. Navigational aids and communications systems
    - 13.1.Vocabulary
    - 13.2.Grammar practice: Indirect / reported speech
    - 13.3.Role-play
14. Other systems
    - 14.1.Vocabulary
    - 14.2.Review of the verb tenses
    - 14.3.Writing exercise

Unit 5: Navigation and safety

15. Navigation concepts
    - 15.1.Vocabulary and reading comprehension
    - 15.2.Review of prepositions, verb tenses
16. Regulations and conventions on security and the safety of life at sea
    - 16.1.Listening exercise with worksheet
    - 16.2.Grammar practice: The first conditional

Recommended reading:

- Students are provided with a course pack containing exercises and materials developed by the lecturer, as well as relevant articles collected from a number of sources.
- The primary published sources for the course are:

- Blakey, T.N. 1987. English for Maritime Studies. Prentice Hall: UK.
- Parrott, M. 2000. Grammar for English Language Teachers. Cambridge: Great Britain.
- Van Kluijven, P.C. 2003. The International Maritime Language Programme. Alk & Heijnen Publishers: The Netherlands.

Teaching methods:

A collaborative learning approach is taken in this course, whereby students are encouraged to participate actively in discussion. There are some lectured components, for example when grammar is taught, but students are always required to apply that knowledge either verbally or in writing as it is taught. Mixed media are used in the classroom. Students are sometimes required to listen to audio tracks and to do a corresponding exercise, sometimes video is utilized, students are often required to read relevant articles, and where applicable iPad applications are used to illustrate grammar points etc.

Assessment methods:

- Students who qualify for Continuous Evaluation are evaluated in accordance with the following:
- Quizzes, homework assignments, and participation throughout the semester: 20%
- Mid-term Oral Presentation: 15%
- Mid-term Written Exam: 25%
- Final Oral Presentation: 15%
- Final Written Exam: 25%

Language of instruction:	English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Introduction of the Study of Law and Labour Law		
Field:	Social Science		
Course code:	3153	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	1st	**Semester:**	1st
ECTS:	4,5	**Hours/Type (T/P/TP):**	4h / TP
Name of lecturer:	Ana Cristina Pimentel		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Learning of the essential basis of Law and the main principles of our juridical order. Introduction to the study of obligations and contracts as a preparation to the study of Labour Law. Learning of the essential basis for Labour Law in order to allow the global understanding of the individual and collective relationships, the rights and obligations of the intervening parties.

Course contents:

I. Basic principles of Law

1. Definition of Law (4 hours)
   - 1.1. The social nature of man. The social order
   - 1.2. The juridical order and its characteristics
   - 1.3. The juridical rule
   - 1.4. The juridical relationship
   - 1.5. The divisions of Law
2. The sources of Law (3 hours)
   - 2.1. The constitutional, legislative and regulation powers
   - 2.2. The constitution, the law and regulations
   - 2.3. The costume, jurisprudence and doctrine
   - 2.4. International Law, European Law and their validity within internal Law
3. Interpretation and application of the Law (2 hours)
   - 3.1. Forms of interpretation
   - 3.2. The application of the Law in terms of time and location
   - 3.3. Application of the Law for non-ruled situations
   - 3.4. Interpretation by analogy

II. The Law of contracts

1. Introduction. Obligational Law (1 hour)
   - 1.1. Classification of the obligations
2. The sources of the obligations (2 hours)
   - 2.1. Contracts
   - 2.2. Individual obligations
   - 2.3. "Gestão de negócios"
   - 2.4. Civil liability
3. Fulfillment of obligations (3 hours)

3.1. Definition and contents of the fulfillment of obligations
3.2. Fulfillment by the debtor and by a third party
3.3. The place and time for the fulfillment
3.4. The non-compliance
3.5. Delay by the debtor and the creditor

4. Guaranties, transmission and extinction of the obligations (3 hours)
4.1. Personal guarantees
4.2. Guarantees based on assets
4.3. Transmission of obligations
4.4. Extinction of the obligations

5. Contracts in general (4 hours)
5.1. Principles applicable to the contracts
5.2. The incorporation of contracts
5.3. Defects on the contracts
5.4. Some types of contracts

III. General principles of Labour Law

1. The purpose and scope of Labour Law (2 hours)
1.1. The sources
1.2. National and international sources

2. The labour contract (2 hours)
2.1. The object
2.2. Juridical characteristics
2.3. Differences when compared with their similar contracts

3. The Employer and the Employee (3 hours)
3.1. Definitions
3.2. Rights and obligations

IV. The individual labour relationships

1. The labour contract (4 hours)
1.1. Objective and subjective requisites
1.2. Term and conditions
1.3. Initial experience period

2. The working time and performance location (6 hours)
2.1. The duration of the working period
2.2. Work performed after the working period
2.3. Absences
2.4. Holidays

3. Payment (2 hours)
3.1. Definition and composing elements
3.2. Form and place of payment
3.3. Prescription of labour credits

4. Suspension of the labour contract (2 hours)
4.1. For causes related to the Employee
4.2. For causes related to the Employer

5. Termination of the labour contract (10 hours)

5.1. Revocation
5.2. Caducity
5.3. Dismissal
5.3.1. By the initiative of the Employee
5.3.2. By the initiative of the Employer
5.3.3. Disciplinary procedure
5.3.4. Collective dismissal

V. Labour collective relationship

1. The collective dimension of labour law (1 hour)
2. Unions and employers associations (1 hour)
3. Collective negotiation (2 hours)
   3.1. The negotiation procedure
   3.2. The collective contract
4. Labour law reaction means (2 hours)
   4.1. The strike
   4.2. The lock-out

Recommended reading:

- João Castor Mendes, Introdução ao Estudo do Direito
- Inocêncio Galvão Teles, Direito das Obrigações
- Mário Júlio de Almeida Costa, Direito das Obrigações, Almedina
- Pedro Romano Martinez, Direito das Obrigações. Apontamentos, AAFDL
- Constituição da República
- Código Civil
- Código do Trabalho
- António Monteiro Fernandes, Direito do Trabalho, Almedina

Teaching methods:

Presentation of the subjects, analysis of cases and analysis of court decisions.

Assessment methods:

The assessment is made on the basis of two tests on the subjects studied plus the intervention of the student on the classes on a regular basis.

The tests will be given one at the middle of the semester and the other at the end of the semester, on a date to be schedules with the students.

The presence in the classes and the intervention of the student will be considered

The final mark for the unit, between 0 and 20, will result from the arithmetic average from the following percentages 1st test 50%; 2nd test plus intervention of the student 50%

The lack of positive result, with a mark inferior to 10, will imply the need for the final exam to be taken

Language of instruction:	Portuguese / English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Transport Technologies		
Field:	Transport's Technologies		
Course code:	3154	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	1st	**Semester:**	1st
ECTS:	6,0	**Hours/week:**	4h / TP
Name of lecturer:	Alberto Serrano Fontes		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Give the students technical and practical knowledge on transports safety, enabling them to carry tasks within the area of transports management, at the maritime, port and logistic activities. Give the students technical knowledge and its interaction with the safety and environment aspects.

Course contents:

1. The transports (2 hours)
   - 1.1. The history of the transports and the technologic development
   - 1.2. The transport means
2. Measure systems (2 hours)
   - 2.1. The decimal metric system. The British System (U.S.A.). The Units International System. Scales. The conversion factors
   - 2.2. Stowage factors
3. Maritime Transport (17 horas)
   - 3.1. Vessel description. Generalities. Nomenclature definitions. Vessels characteristics. Structures of the vessels. Compartments of the vessels. Types of construction. Classification Societies. Class
   - 3.2. Class certification. Classification Societies. Maintaining class
   - 3.3. Types of vessels. Cargo ship classification as per their appliances. Types of cargo ships. Vessel designation
   - 3.4. Vessel dimensions. Linear, volume and signal dimensions. Draft scales. Draft variations and salinity. Free board and reserve buoyancy
   - 3.5. Elementary ship stability. Archimedes principle. Gravity centre. Buoyancy centre. Floating stability. Deadweight. Binary of ship stability. Ship equilibrium conditions. Longitudinal ship stability
4. Road transport (5 horas)
   - 4.1. Road vehicles
   - 4.2. Road cargo technologies
   - 4.3. Technical management
5. Rail transport (3 horas)
   - 5.1. Rail transport technologies
   - 5.2. Rail platforms technologies
6. Air transport (3 horas)
   - 6.1. Technologies of airplanes
   - 6.2. Airport and air navigation
   - 6.3. Airport technologies

7. Main engines (22 horas)

7.1. Introduction and definition. Heat engines classification. Different types of main engines. Some economic aspects which have to be considered: factors which must be considered for option; The commercial space economy regarding the mass thermal capacity; definition of the most economic speed

7.2. Auxiliary, mechanic and electronic systems. Main auxiliary systems. Ship electronic systems. Electronic navigation aids. Communication systems. SOLAS Convention and GMDSS system

7.3. Maintenance management. Introduction. The importance of maintenance. Different types of maintenance and works services. The maintenance costs. Total Produced Maintenance (TPM). The informatics at board maintenance management. Key performance indications (KPI)

8. Bunkers and lubs (6 horas)

8.1. Main types of oil. Introduction to oil refinery. Main types of combustibles. Combustibles and lubs identification through the classifications and specifications. Environmental care with handling and storage of oils

Recommended reading:

- Apontamentos de Teoria do Navio – Cte. Jaime Lima ENIDH 2000.
- Arte Naval Moderna Cte. Castro e Silva – Edições de Marinha 1968.
- Dicionário Ilustrado de Marinha – António Marques Esparteiro – Clássica Editora 2001
- Construção Naval – Eugénio Estanislau de Barros e A. Ferreira de Freitas 1958.
- Dicionário de Marinha – Português/Inglês – António Marques Esparteiro Ed. Marinha 2002
- Dicionário de Marinha – Inglês/Português – António Marques Esparteiro Ed. Marinha 2002

Teaching methods:

Two educational visits having in mind the transport technologies.

Assessment methods:

The continuous knowledge assessment of the course is made by

A - Two written tests (without consulting), each one corresponding to 30% of the final marks.

B - Continuous assessment corresponding to 10% of the final marks, which include the participation, understanding capacity and diligence of the students during the classes and in the study visits.

Notes:

a) The classifications of the Written Test should not be inferior to 8 (eight) values. On the contrary, the student will have to carry out the final examination of the course unit.

b) All students which have a mark equal or superior to 17 (seventeen) values should be submitted to an oral examination to defend the mark. Should they not attend to this examination, the final mark will be 16 (sixteen) values.

Language of instruction:	Portuguese / English

Escola Superior Náutica Infante D. Henrique
Departamento de Transportes e Logística

1st year of studies

2nd semester

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Mathematical Analysis II		
Field:	Basic Science		
Course code:	3155	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	1st	**Semester:**	2nd
ECTS:	6,0	**Hours/ Type (T/P/TP):**	5h / TP
Name of lecturer:	Maria Elisa Cunha		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

To give the students the concepts, the techniques and the suitable reasoning in the Mathematical Analysis area, with special incidence in the differential and integral calculus in R^n, to prepare them to develop the necessary capabilities to construct mathematical models with two or more variables to simulate real case studies in the management area.

Course contents:

1. Differential calculus in Rn (30 hours)
   - 1.1. Scalar fields: limits, continuity, partial derivation, directed derivative, gradient, implicit function derivative, composite function derivative, free extremes and conditional extremes.
   - 1.2. Vector fields: limits, continuity and derivatives: The Jacobian matrix, the Jacobian, divergence, rotational, Laplacian and invertiblity.
2. Integral calculus(15 horas)
   - 2.1. Double and triple integrals.
   - 2.2. Application to area and volume calculation. Polar, cylindrical and spherical coordinates.
3. Differential equations (30 horas)
   - 3.1. Introduction and terminology.
   - 3.2. Frist order homogeneous and nonhomogeneous linear equations.
   - 3.3. Second order linear equações.

Recommended reading:

- Cunha, Maria Elisa. "*Apontamentos Análise Matemática II*". Associação Estudantes ENIDH
- Anton, Howard; Bivens, Irl; Davis, Stephen. "*Calculus*", 8th Edition. John Wiley & Sons, Inc. ISBN 0-471-48273-0.
- Larson, Ron; Hostler, Robert P.; Edwards, Bruce H.. "*Cálculo*", Vol. II, 8.ª Edição. Hill Interamericana do Brasil, Lda. ISBN: 0-618-50298-X.
- Stewart, James. "*Cálculo*", Vol. II, 5ª Edição. Tradução de António Carlos Moretti e António Carlos Gilli Martins. Austrália: Cengage Learning. ISBN 85-221-0479-4
- Spivak, Michael. "*Calculus*", 3rd Edition. Cambridge University Press. ISBN:978-0-521-86744-3

Teaching methods:

The teaching methodology includes theoretical-practical lectures. It is also expected that the student prepare themselves by reading each topic in the recommended readings. In the lectures the students will be given brief exposition about the topics, followed by examples and exercises. The students are also given weekly exercises to solve at home.

Assessment methods:

The student can choose between two tests during the semester or a final exam. The final score (FS)

results from: FS= 0.5(ST1+ST2) or FS=ES	
Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	General Accounting		
Field:	Economics & Management		
Course code:	3157	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	1st	**Semester:**	2nd
ECTS:	6,0	**Hours/week:**	4h / TP
Name of lecturer:	Cecília Margarida Martins		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Identify accounting principles using accounting concepts and accounting classes to perform accounting operations. Understand the different books where the information needs to be posted.

Recognize the financial activity of the State through the General Tax Law to define, interpret and apply the principles of taxation (VAT e Income Tax).

Course contents:

1. General accounting concepts
2. Fundamental concepts
   - 2.1. Assets, liabilities, expenses, income
   - 2.2. Movement, recognition criteria and measurement of assets, liabilities, expenses and income
   - 2.3. Account
   - 2.4. Accounting registrations methods
   - 2.5. Accounting entries
   - 2.6. T accounts, balance, balance sheet and income statement
3. Accounting standards
   - 3.1. Conceptual structure
   - 3.2. Accounts' code
4. Account' study
   - 4.1. Cash and Bank
   - 4.2. Debtors and Creditors
   - 4.3. Stocks
   - 4.4. Fixed assets
   - 4.5. Capital and retained earnings
   - 4.6. Cost of goods sold, service costs and running costs
   - 4.7. Sales and Investment income
   - 4.8. Results
5. Depreciation, amortization and adjustments
6. End of year procedures
   - 6.1. Account regularization
   - 6.2. Balance
   - 6.3. End of year entries
   - 6.4. Final balance

7. Accounting standards and financial reporting 7.1. Accounting standards and financial reporting 7.2. Accounting standards and financial reporting for small enterprises
Recommended reading:
· BORGES, António, RODRIGUES, Azevedo, RODRIGUES, Rogério; (2010); *Elementos de Contabilidade Geral*, Áreas
Teaching methods:
Theoric classes using media support, with student's active participation associating deductive and inductive methods. Practical classes based on exercises resolution, recurring to dialogue, with the purpose of guiding the students to the wanted conclusion, being necessary for the student to present all the processes of resolution and reasoning.
Assessment methods:
1st option: Realization of 2 summative tests (50% each). Minimal attendance of 70% at practical lessons. Minimum score: 8/20 Average score: 10/20 2nd option: Final exam.

Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Economics		
Field:	Economics & Management		
Course code:	3158	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	1st	**Semester:**	2sd
ECTS:	5,0	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	André Cristovão Henriques		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Allowing students to manage main economic concepts and knowledge, to understand economic tools they can use to analyze scientifically economic matters in order to apply correctly basic economic principles to daily problems.

Course contents:

1. Choice under resources scarce condition
2. Microeconomic concepts
3. Economics: micro and macro perspectives
4. Costs: main concepts
5. Comparative advantage
6. Markets and Government role
7. The demand
8. The Offer
9. Efficiency and Trade
10. Production and Enterprise organization
11. Market imperfections
12. Strategic thinking
13. Main macroeconomic matters
14. Macroeconomic Politics
15. Measuring Economic Activity
16. Price stability
17. Aggregate Offer and Demand
18. Macroeconomics in an open economy

Recommended reading:

- Samuelson, Paul A., Nordhaus, William D., (2005)- Economia. 18ª ed. McGraw Hill
- Frank, Robert; Bernanke, Ben (2003)- Princípios de Economia, McGraw Hill
- Mário Murteira (1996)- A economia em 24 lições
- Revistas internacionais de economia - The Economist, Business Week, Finatial Times
- Jornais e revistas portuguesas -Diário Económico, Semanário Económico e Exame

Teaching methods:

Presential and participative theoretical and practice teaching.

Continuous quantitative evaluation.	
Assessment methods:	
Continuous valuating including: 2 written examination worthing 90% Participation, class work and exercises worthing 10%	
Language of instruction:	Portuguese / English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Business English I		
Field:	Social sciences		
Course code:	3159	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	1st	**Semester:**	1st
ECTS:	4,0	**Hours/ Type (T/P/TP):**	3h / T
Name of lecturer:	Mercia de Wet		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

The objective of this class is to familiarize students with the vocabulary and language conventions commonly used when we do business in an English-speaking environment, with a strong focus on practical application in presentations, e-mail, telephonic communications etc.

This course contains some general Business English applications, but there is also a strong focus on the kind of Business English used in the Shipping and Logistics sectors.

Course contents:

1. The Sectors of the Economy: Introduction to Business English, understanding what the Economy is, the economic sectors it is divided into, and how industries fit into these.
2. Talking About Companies: How to describe companies and what they do, understanding how companies are organized, their line of business etc. Word forms and prepositions.
3. Talking about Jobs: Job descriptions, organograms, describing job functions etc. Verb tense review – Present simple vs. present continuous.
4. Presentations and Speeches: The language and conventions of presentations and meetings. Verb tense review – Past simple vs. Present Perfect Simple, phrasal verbs (esp. with do and make).
5. English for Logistics: What is logistics? What does it entail? Jobs in Logistics, regular activities in Logistics, supply chain management etc, dealing with questions. Word order, compound nouns, word building, the Passive.
6. Modes of Transport: Transport and handling equipment, container types, types of goods. Describing features and making comparisons. Review of comparative and superlative adjectives.
7. Meetings: Procedures and language of meetings. Conditionals.
8. Planning and Arranging Transport: Transport options, measurements, quotations, making enquiries and requests, advising and offering alternatives, numbers, dimensions and weight.
9. Telephone language: Handling telephone enquiries. Polite language. Modal verbs.
10. Shipping goods: Markings, loading, advice of shipment, shipping instructions, talking about shipping problems, giving instructions, prepositions.
11. Writing a Business E-mail: Structure, format, polite language in writing vs. speech.

Recommended reading:

Students are provided with a course pack containing exercises and materials developed by the lecturer, as well as relevant articles collected from a number of sources.

The primary published sources for the course are:

- Cotton, D. et al. 2002. Market Leader Pre-Intermediate Business English. Longman Pearson: England
- Grussendorf, M. 2009. English for Logistics. Oxford University Press: Oxford.
- Jones-Macziola, S. and White, G. 2004. Getting Ahead: A communication skills course for Business English. Cambridge University Press: Cambridge.
- Jones-Macziola, S. and White, G. 2004. Further Ahead: A communication skills course for Business English. Cambridge University Press: Cambridge.

- Parrott, M. 2000. Grammar for English Language Teachers. Cambridge: Great Britain.
- Pilbeam, A. and O'Driscoll, N. 2010. Market Leader Logistics Management. Pearson Longman: England.

Teaching methods:

A collaborative learning approach is taken in this course, whereby students are encouraged to participate actively in discussion. There are some lectured components, for example when grammar is taught, but students are always required to apply that knowledge either verbally or in writing. Since this course has a strong practical and communicative focus, students are required to participate in quite a bit of role play. Mixed media are used in the classroom. Students are sometimes required to listen to audio tracks and to do a corresponding exercise, sometimes video is utilized, students are often required to read relevant articles, and where applicable iPad applications are used to illustrate grammar points etc.

Assessment methods:

Students who qualify for Continuous Evaluation are evaluated in accordance with the following:

Quizzes, homework assignments, and participation throughout the semester: 20%

Mid-term Oral Presentation: 15%

Mid-term Written Exam: 25%

Final Oral Presentation: 15%

Final Written Exam: 25%

Language of instruction:	English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Programming		
Field:	Basic Science		
Course code:	3156	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	1st	**Semester:**	2nd
ECTS:	5,0	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Pedro Silveira		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

By the end of this course the student should be able to use Microsoft Office tools autonomously to create documents, slideshows and worksheets. The student should also be able to solve a programming problem by creating a flowchart of an algorithm and designing/writing a program in Visual Basic programming language.

Course contents:

1. Microsoft Office Word
   - 1.1. Introduction: Word environment, text basics, saving documents, proofing features, hyperlinks, printing
   - 1.2. Basic features: Creating documents, formatting text, text boxes, Clip Art, shapes, templates, lists, line and paragraph spacing
   - 1.3. Advanced features: Page layout, pictures, columns and ordering, headers and footers, tables, SmartArt graphics, indents and tabs, styles and themes
2. Microsoft Office PowerPoint
   - 2.1. Introduction: PowerPoint environment, presentation basics, text basics, themes and background styles, pictures and Clip Art, lists, proofing slides, viewing and printing slides
   - 2.2. Basic features: Word Art and shapes, tables, charts, movies and sound, animating text and objects, transitions
   - 2.3. Advanced features: Slide master, SmartArt illustrations, hyperlinks and action buttons, arrange objects, indentation and line spacing, CD packaging
3. Microsoft Office Excel
   - 3.1. Introduction: Excel environment, workbook concept, modifying columns and rows, formatting text, simple formulas, working with cells, printing
   - 3.2. Basic features: Complex formulas, functions, sorting, grouping, filtering, formatting tables, aligning text, working with worksheets
   - 3.3. Advanced features: Templates, what-if analysis, charts, conditional formatting, pivot tables
4. Algorithms
   - 4.1. Algorithms and its efficiency
   - 4.2. Algorithms representation. Flowchart
5. Visual Basic Programming languages
   - 5.1. The interface and components
   - 5.2. Language elements
   - 5.3. Objects, properties, methods and syntax
   - 5.4. Programming structures: decision instruction and cycles
   - 5.5. Procedures

Recommended reading:

· MOS 2010 Study Guide for Microsoft® Word, Microsoft Press. · MOS 2010 Study Guide for Microsoft® PowerPoint®, Microsoft Press. · MOS 2010 Study Guide for Microsoft® Excel®, Microsoft Press. · Beginning Visual Basic 2010, Wiley/Wrox.
Teaching methods:
Lectures. Practical exercises using Microsoft Office tools. Practical exercises using Visual Basic IDE.
Assessment methods:
3 group assignments about Microsoft Office tools. 1 group assignment that requires the students to develop a program using Visual Basic as a programming language. 1 test.

Language of instruction:	Portuguese, English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Transports' Safety		
Field:	Transports' Technologies		
Course code:	3160	**Type of course:**	Compulsory
From:	2011/2012		
Year of study:	1st	**Semester:**	2nd
ECTS:	5,5	**Hours/week:**	4h / TP
Name of lecturer:	Alberto Serrano Fontes		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Give the students technical and practical knowledge on transports safety, enabling them to carry tasks within the area of transports management, at the maritime, port and logistic activities. Give the students technical knowledge and its interaction with the safety and environment aspects.

Course contents:

1. Legal requirements. Accidents prevention and detection (4 hours)
   - 1.1. Programmes of the great legal actions
   - 1.2. Safety evaluation
2. Required actions for carrying out legal proposals (4 hours)
   - 2.1. Data registry apparatus concerning accidents in the transports
   - 2.2. European action programmes for safety in the transports
3. Accidents attendance in the Company and control measures (7 hours)
   - 3.1. The accidents manager as intermediary between the injured driver, the press and other entities
   - 3.2. The 'help desk', located in web and addressed to the users and authorities, which should answer all technical and non-technical questions
   - 3.3. The Companies' actions to develop the best performances of the transports
   - 3.4. Development of an electronic data base enabling an easy access by the personnel
   - 3.5. Ergonomic of the person-machine interface
   - 3.6. Psychic / physic stage of the driver
   - 3.7. Continuous upbringing and economic/defensive driving
4. The safety and environment aspects of the transports (4 hours)
   - 4.1. Main environment impacts caused by the transports
   - 4.2. The "Mar Limpo" Plan: STCW, IMO, OIT, OMS. Definition and objectives
   - 4.3. Procedures plan for the authorities
   - 4.4. Transposition to the national legislation
5. Legal requirements, IMO, SOLAS, MARPOL, IMGD Code, ADR, ISPS Code, ISM Code (4 hours)
   - 5.1. Definition and objectives
   - 5.2. International procedures for inspection and applicability
   - 5.3. Transposition to the national legislation
6. Fire prevention, detection and extinction (7 hours)
   - 6.1. Fire theory
   - 6.2. Fire and allied perils, main causes

6.3. Fire detection systems, equipment for atmosphere analysis

6.4. Fire extinction techniques and agents

7. Combat against sound, air and marine pollution by hydrocarbon. The environment preservation (8 hours)

7.1. National and international legislation – inspections

7.2. Atmospheric cycle of the pollution agents at the physical, chemical and biological component

7.3. Technology of the treatment, pollution metering, emission control, weather, environment management, effect on health, internal pollution

7.4. Emergency plans against marine pollution, main actions, threats appraisal, methods of acting, restraint, recovery, storing, transport and elimination

7.5. Eutrophication

7.6. 2000 Rule – Port resources for waste reception. AFS Convention

8. Combat against biological contamination of the products destined, direct or indirectly, to the human nutrition. Bioterrorism (3 hours)

8.1. Protection of the entrepôts and warehouses devoted to the operations

8.2. Restraint plans, preventive and performing actions for the bioterrorism acts

8.3. Analysis of the main dangers and monitoring of the occurred acts

8.4. Personnel training

9. Safety in the handling and storage of hazard cargoes (6 hours)

9.1. Dangerous substances and working conditions – ATEX Rule

9.2. Actions and equipment for the installations' and individual protection

9.3. Conception, planning and implantation of the entrepôts and warehouses

9.4. Rules, labelling, instructions for the handling of hazard cargoes

10. Cyber terrorism (3 hours)

Evaluation of the emerging risks having in mind the increase of safety as regards the technological development aspects when using technologies against human kind

10.1. European Cyber Terrorism Convention

- Actions which should be adopted at national level
- Crimes against confidentiality, integrity and data availability in the informatics systems
- Informatics crimes
- Context crimes
- Crimes against intellectual property and rights
- Other forms of responsibility and penalty

10.2. International Cooperation. The United States and the European Community together against the cyber-terrorism

10.3. The cyber war weapons used by the organized crime

10.4. The protection against attacks

- RFDI – Radio frequency identification
- Antivirus
- Users data encryption
- Protection actions

Recommended reading:

Supporting documents:

Title: Class supporting documents based on several articles of expertized publications, such as, Cargo Systems, Containerisations International, World Cargo News, IFW – International Freight Weekly, Shipping World & Shipbuilder, Research * eu, Marine Log, Maritime Journal, Fairplay

Recommended reading:

- AGERHOU, HANS (2004) Planning and Design of ports and Marine Terminal. Thomas Telford Lda.
- "Code of safe working practices for the safety of merchant seaman" Edition HMSO – 1991
- The International Maritime Solid Bulk Cargoes Code (IMSBC Code)-Dec.2002
- "COLREG" IMO - 1972 Edition
- "Convenção ILO 32" e "CÓDIGO DE Conduta" Internacional Labour Organization - 1978
- "Convenção MARPOL" IMO – 1973
- ESPO (1994) Environmental Code of Practice, European Sea Ports Organization.
- "Guia para minimização de riscos microbianos em produtos hortifrutículos frescos".
- US Food and Drug Administration Centre for Food Safety and Applied Nutrition – 1998
- "INCOTERMS" United Nations – 1990
- "ISPS Code" UE – 2003
- "Life-saving Appliances" IMO – 2003 Edition
- "LOAD LINES" IMO – 2002
- MOPTH (2003) – Transporte Internacional de Mercadorias em Portugal 1990/2002. Gabinete de Estudos e Planeamento.
- PEIXEIRO, L – Planeamento Portuário, Apontamento do Curso Pós-Graduação em Tecnologias e Ciências Nátuicas – Escola Náutica Infante D.Henrique
- "Safety in Chemical Tankers" – International Chamber of Shipping – 1997
- "Securing of Road Trailers on board RO/RO ships" – MariTermAB – 1983
- "Shippers Guide to Stowage of Cargo in Marine Containers" – US Dep.Transport – 1982
- "SOLAS" IMO – 1997
- Sousa, J.S. (2003) – Portos, Transportes Marítimos e Território.
- "STCW – A guide for seafarers" International Transport Workers Federation – 1996
- "STCW Convention" IMO – 1996
- UNCTAD (1985) Port Development. A. Handbook for Planners in Developing Countries, United Nations

Teaching methods:

The use of several practicum cases, which will be duly discussed by the students in class.

Two study visits to transport installations, focus being given to the safety problem.

Assessment methods:

The continuous knowledge assessment of the course is made by

A. Two written tests (without consulting), each one corresponding to 30% of the final marks.

B. A work made in group to be presented in the classroom, corresponding to 30% of the final marks, which include the solution of a situation in which the student must show the acquired knowledge.

C. Continuous assessment corresponding to 10% of the final marks, which include the participation, understanding capacity and diligence of the students during the classes and in the study visits.

Notes:

a) The classifications of the Written Test should not be inferior to 8 (eight) values. On the contrary, the student will have to carry out the final examination of the course unit.

b) All students which have a mark equal or superior to 17 (seventeen) values should be submitted to an oral examination to defend the mark. Should they not attend to this examination, the final mark will be 16 (sixteen) values.

Language of instruction:	Portuguese / English.

Escola Superior Náutica Infante D. Henrique
Departamento de Transportes e Logística

2nd year of studies

1st semester

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Operations Management and Quality		
Field:	Economics & Management		
Course code:	3161	**Type of course:**	Mandatory
From:	2011		
Year of study:	2nd	**Semester:**	2nd
ECTS:	5,0	**Hours/week:**	4h / TP
Name of lecturer:	Elisa Maria Milho Semedo de Sá Bandeira		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Knowledge of basic principles and theory about operations management. Historical evolution of OM and its importance in modern management. Student should be able to integrate OM in company's structure.

Knowledge and understanding of the need for Quality Management and the necessary tools for the student to be able to implement it and make it a competitive advantage in the future.

Course contents:

1. Operations Management
   - 1.1. Introduction to Operations Management
     - 1.1.1. Operations and their management
     - 1.1.2. Historical evolution of operations management
     - 1.1.3. Production management. Product design and life cycle.
     - 1.1.4. Production strategies. Outsourcing.
   - 1.2. Lean thinking
     - 1.2.1. Understanding the meaning of waste. Basic principles of "Lean Management" and its benefits.
     - 1.2.2. "*Toyota Production System*" and JIT philosophy
   - 1.3. Service management
     - 1.3.1. The concept of "service"
     - 1.3.2. The characteristics of "service"
     - 1.3.3. Quality in servicing
     - 1.3.4. Performance improvement and continuous improvement
   - 1.4. Technology. Knowledge of equipment and machinery.
     - 1.4.1. Introduction
     - 1.4.2. Nature and classification of machinery.
     - 1.4.3. Critical levels of machinery
     - 1.4.4. Handling costs
   - 1.5. Operations and Maintenance
     - 1.5.1. Maintenance management
     - 1.5.2. Cost analysis and its importance
     - 1.5.3. Maintenance and Quality

1.5.4. Total Productive Maintenance (TPM)

1.5.5. Management of spares and equipment

1.5.6. Budget control

1.6. Key performance indicators

1.6.1. Introduction

1.6.2. Performance metrics.

2. Quality Management

2.1. Quality. Concepts and phases.

2.1.1. Evolution of the concept of Quality

2.2. Organizations dedicated to Quality

2.3. Implementation of a Quality management system in na organization

2.3.1. ISO 9001:2008 – interpretation and implementation

2.4. Management for Quality

2.4.1. Management of a product life cycle

2.4.2. Quality and competitiveness.

2.4.3. Integrated quality systems

2.5. Quality tools

Recommended reading:

- Workbook developed by the teacher, Elisa Bandeira
- *"Gestão de Operações na indústria e nos serviços"*, João Paulo Pinto
- "Operations Management", Aquilano, et al

Teaching methods:

Theoretical concepts presented, by the lecturer. Case studies. Research work on certain subjects, to be carried out by the students. Open lectures carried out by invited OM and Quality professionals. Visits to significant companies.

Assessment:

2 written tests (35% +35%) + 1 monography (30%)

Students with an average mark of 10 points or more will be approved.

Students with an average mark of less than 10 points must do an exam.

The exam consists of 1 (one) written test.

Language of Instruction:	Portuguese and English

Bachelors in Port Management			
Description of individual course unit			
Course title:	Strategic Management and Marketing		
Field:	Economy and Management		
Course code:	3162	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	2nd	**Semester:**	1st
ECTS:	5,5	**Hours/ Type (T/P/TP):**	5h / T
Name of lecturer:	Fernando Cruz Gonçalves		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Throughout the course students will develop academic, technical and human skills, particularly focusing on the aspects of capacity for reflection, leadership skills, critical thinking, innovation and relationship skills in group work.

At the end of the syllabus of the course, students should be able to:

- Understand and relate the basic principles of Corporate Strategy;
- Develop a Strategic Plan for the Company;
- Apply the principles of Strategic Management at the Transport Sector and Logistics;
- Understanding the basics of marketing: the concept of customer satisfaction, value creation, marketing environment, market research, consumer behavior and market segmentation;
- Understand the conceptual foundations of logistics strategies.

Course contents:

1. Strategic environment
   - 1.1. Strategic thinking
   - 1.2. Evolution of strategic thinking
   - 1.3. Definition of strategy
   - 1.4. Contextual environment
   - 1.5. Transactional environmental
   - 1.6. Industry attractiveness – 5 forces model of Porter
   - 1.7. Industry structure – phases of Life Cycle Industry (Introduction, Growth, Maturity, Decline)
   - 1.8. Critical success factors
   - 1.9. Strategic groups – cluster analysis
   - 1.10. Case study
2. Analysis of the firm
   - 2.1. Resources company
   - 2.2. Cost dynamics
   - 2.3. Core competencies
   - 2.4. Strategic intent
   - 2.5. SWOT Analysis
   - 2.6. Strategic benchmarking
   - 2.7. Case study
3. Formulation of a strategy
   - 3.1. Mission, objectives and strategy

3.2. Vision and mission of the company
3.3. Strategic objectives
3.4. Nature of product-market strategy
3.4.1. Products and Markets
3.4.2. Competitive Advantage (Competitive Model of Porter)
3.4.3. Product Differentiation
3.4.4. Evolution of Product-Market Strategy
3.5. Case study

4. Strategic options
4.1. Vertical integration strategy
4.1.1. Benefits, costs and risks of vertical integration
4.1.2. Strategic outsourcing
4.2. Internationalization strategy
4.3. Diversification strategy
4.3.1. Portfolio business planning model (McKinsey / BCG model)
4.3.2. Strategic positioning
4.4. Case study

5. Strategic models
5.1. Acquisitions and mergers
5.2. Strategic alliances
5.3. Value chain porter
5.4. Management models
5.4.1. Management of uncertainty
5.4.2. Control management (Balanced Scorecard)
5.4.3. Scenario building
5.5. Case study

6. Seminar – Strategic Management

It will be a guest expert in the field of Strategic Management which will hold a lecture related to the thematic content of the discipline.

Students have to prepare a synthesis report, addressing the problem developed, the main topics of the intervention and its main conclusions

7. Marketing
7.1. Definition of marketing
7.2. Marketing plan
7.3. Marketing-Mix
7.4. Market research
7.5. Consumer behavior
7.6. Market segmentation
7.7. Case Study

8. Logistics strategies
8.1. Logistics and Value
8.2. Customers / consumers and markets
8.3. Relationship Marketing and Logistics
8.4. Collaborative Models

8.5. Case study
Recommended reading:
The notes and handouts will be provided by the teacher. It is also advisable for the deepening of some syllabuses consulting the following books: · Button, Kenneth, Transport Economics, Edward Elgar, 3nd Edition, 2004; · Cabral, Luis; Industrial Economics, McGraw Hill, 2002.
Teaching methods:
The teaching methodology aims to active and dynamic, focusing on the contact teacher / student. In addition to the presentation of the syllabus, students will be encouraged to submit work groups (2-3 students) on Case Studies provided by the teacher / prepared by students, for each of the subjects discussed.
Assessment methods:
Continuous Evaluation: Continuous assessment involves the following evaluation criteria: - 2 Written Test (without consultation) Single Weight Ratio = 70%; - "Case Studies" - Weight = 25%; - Seminar - Individual relative weight = 5% Final Exam: All students who obtain a weighted average of the three criteria set under the continuous assessment of less than 9.5 shall be subject to final examination of the discipline. The final exam of the course will consist of a written test (two hours, without consultation), that will be addressed in the main program content of the discipline.
Language of instruction: Portuguese / English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Financial and Investment Analysis		
Field:	Economics and Management		
Course code:	3163	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	2nd	**Semester:**	1st
ECTS:	5,5	**Hours/ Type (T/P/TP):**	5h / TP
Name of lecturer:	Guilherme dos Santos Lobão		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Give students an understanding of fundamental concepts, techniques and methodologies used in financial analysis and evaluation of investment projects, as well as understand the work that it becomes necessary to perform in relation to accounting and non-accounting and secondly to identify the need for development / production of intelligence estimates that enables the analysis and consequent decisions.

Course contents:

1. Financial Management
   - 1.1. Financial Analysis
   - 1.2. The Financial Structure
     - 1.2.1. Sources of funds and application of funds
     - 1.2.2. Documents most important
     - 1.2.3. The preparation and certification of documents
   - 1.3. The Financial Balance short-term
     - 1.3.1. Working Capital
     - 1.3.2. Study of Liquidity
     - 1.3.3. Method of ratios or indicators
     - 1.3.4. Rotation indicators
     - 1.3.5. Average time to receipts and payments
     - 1.3.6. Balance of liquidity or demonstration of sources and uses of funds
   - 1.4. The Financial Balance Medium and Long Term
     - 1.4.1. Solvency
     - 1.4.2. Profitability
     - 1.4.3. Cash Flow
     - 1.4.4. Self-financing
     - 1.4.5. Gross value added
     - 1.4.6. Productivity
   - 1.5. The Elements Extra-accounting
2. Investment Analysis
   - 2.1. Definition of investment project
   - 2.2. Types of investment projects
   - 2.3. Classification of investments
   - 2.4. Main elements to consider in the design and analysis of investment projects
   - 2.5. Main stages of an investment project

3. Previous Studies
   - 3.1. Market Study
   - 3.2. Technical study of the investment
4. The Choice of Vantage Point Company
   - 4.1. Fundamentals
     - 4.1.1. Current Value
     - 4.1.2. The capital
     - 4.1.3. Concept of Cash Flow
     - 4.1.4. Economic Life of an Investment
     - 4.1.5. Selection of investments and the hierarchy of objectives
   - 4.2. Analysis of profitability. Evaluation methods per se
     - 4.2.1. The method of NPV (Net Present Value)
     - 4.2.2. The method of TIR. (Internal Rate of Return)
     - 4.2.3. The method of ROI (return to index or return on investment)
     - 4.2.4. The method 'Pay Back Period' (Recovery Period Invested Capital)
5. Interaction between financing decisions and investment
   - 5.1. The choice of funding processes
   - 5.2. The means of financing the company
   - 5.3. The plan for financing investments
   - 5.4. Investment and Financing Decision
6. The cost of capital
   - 6.1. The cost of capital of common shares
   - 6.2. Weighted average cost of capital
   - 6.3. The marginal cost of capital
   - 6.4. The leverage (Levier)
7. Risk Analysis
   - 7.1. Traditional Criteria
   - 7.2. Criteria Modern

Recommended reading:

- Neves, João; Análise Financeira, Texto Editora, Lisboa, 2006.
- Lopes, Eurico; Opções Reais – A nova análise de investimentos, Edições Sílabo, Lisboa, 2001.
- Abecassis, F. e N. Cabral; Análise Económica e financeira de projetos, FCG, Lisboa, 1982.
- Barros, Carlos; Decisões de Investimento e Financiamento de Projetos, Silabo, 1991.
- Bierman e Smidt; He capital Decision, MacMillan, 7ª ed., 1992.
- Brealey, R. e S. Myers; Principles of Corporate Finance, McGraw-Hill, 5ª ed., 1996.
- Guia para a Elaboração de Projetos Industriais, Publicação CGD e IAPMEI.
- Roldão, Victor Sequeira; Guia para Preparação e Avaliação de Investimentos, Monitor - Projetos e Edições, Lda. 1989.
- O diagnóstico da sua empresa, Publicação CGD e IAPMEI.

Teaching methods:

Classes are theoretical and practical. The exhibition will be of fundamental concepts, as appropriate, then the resolution of implementation problems. The examples and resolution of problems is not, however, the aim of the course. These serve to validate the understanding of the concepts acquired and, especially to permit preparation of financial analysis of a case and the decision on an investment project with the consequent use of material other areas of the management area.

Assessment methods:	
The assessment throughout the semester include: 1 - A written individual (with a call), which represents 50% of final grade; 2 - Resolution of two projects, one on financial analysis and investment analysis on the other delivering individual and will represent 40% of final grade; 3 - Participation in class. Represent 10% of final grade. The area covered by each individual event and should be completed within one week prior to the date of its completion. The students in all the different assessment tests obtain an average equal to or greater than 9.5, are exempted from the final exam, if the individual written test score more than 7.5 points. Students who have an average greater than or equal to 16.5 values in all the different assessment tests and who wish to get ranked higher than 16 value, will undergo an oral exam individually. For final exams, the assessment system is the same as defined in General Regulation Assessment.	
Language of Instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Business English II		
Field:	Basic Science		
Course code:	3164	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	2nd	**Semester:**	1st
ECTS:	4,0	**Hours/Type (T/P/TP):**	4h / T
Name of lecturer:	Elisa Maria Milho Semedo de Sá Bandeira		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Aim: Development of skills to fulfill professional tasks, in English, in an independent way and with no difficulties.

Student should be able to show oral and writing skills equivalent to level B2 (Independent speaker – Intermediate or Vantage), established by the CEFML (Council of Europe Framework for Modern Languages) and by means of the CLIL (Content Language Integrated Learning) method.

After completion of present module with a satisfactory mark (e.g.14) the student should be able to apply to perform the exam for "Business English Certificate", level Vantage, from Cambridge University ESOL.

The student must have developed the suitable skills for his/her future career and according to present requirements of companies, concerning the skills in English in a professional context, such as the use of specific technical vocabulary and jargon. This module comprises the knowledge of vocabulary and specific language within the Transport, Logistics and Ports sector.

Course contents:

1. Economics and Management
   - 1.1. Internal organization in companies
   - 1.2. Salaries and benefits
   - 1.3. CLIL: Technical descriptions and translations. Grammar review
2. Financing and accounting
   - 2.1. Sales and profit Turnover
   - 2.2. Annual budget. Balance sheets and reports
   - 2.3. Proposals of prices. Orders.
   - 2.4. Invoicing
   - 2.5. Banks and financial markets
   - 2.6. CLIL: Listening and comprehension
3. Production and operations
   - 3.1. Products and services
   - 3.2. Supply chain
   - 3.3. Quality
   - 3.4. Marketing
   - 3.5. CLIL: Techniques and training of oral presentations
4. International trade
   - 4.1. Specific terminology. Incoterms
   - 4.2. Bill of Lading, Letter of Credit, Customs clearance, etc.
   - 4.3. EDI systems

4.4. CLIL: Oral skills, participating in meetings and socializing

5. Transports and Logistics
   - 5.1. Means of transport. Intermodality.
   - 5.2. Ports, airports and logistics activity zones
   - 5.3. Types of cargo. Containerized cargo.
   - 5.4. Maritime transport
   - 5.5. Road haulage
   - 5.6. Air transport
   - 5.7. Rail transport
   - 5.8. CLIL: Meetings (role playing)

6. Law and international regulation
   - 6.1. Law terms and expressions
   - 6.2. Contracts
   - 6.3. CLIL: Written correspondence

Recommended reading:

- Apontamentos de apoio fornecidos pela docente: "English in Shipping Bussiness"
- "English Business Letters", F.W.King, Longman
- "A Handbook of Commercial Correspondence", A. Ashley, Oxford University Press

Teaching methods:

Teaching method according to guidelines from University of Cambridge (ESOL- English for Speakers of Other Languages), and observing the levels established by CEFML (Council of Europe Framework for Modern Languages).

Considering that the present module aims the learning of English language with a specified professional context, the teaching method is according to CLIL – Content and Language Integrated Learning. This method. This method aims to develop 4 different components, which are Content, Communication, Cognition and Culture.

Practical work is mainly based on Role-playing.

Assessment methods:

Assessment of 4 different capacities: 1. Reading and comprehension, 2. Writing, 3. Listening comprehension and 4. Oral skills (individual or in a group) by means of:

1 test + 1 oral presentation + 4 mini-tests about terminology

Language of instruction:	English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Probability and Statistics		
Field:	Basic Science		
Course code:	3165	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	2nd	**Semester:**	1st
ECTS:	5,0	**Hours/week:**	4h / TP
Name of lecturer:	Maria Elisa Pissarra do Amaral Cunha		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Knowing and applying the basic techniques of Statistics, Statistical Inference and Correlation Theory. Understanding the theoretical grounding of these areas on Probability Theory. Getting acquainted with and applying some of the main probabilistic models and estimating and testing the parameters needed to their application. Applying these concepts and methodologies to problem solving in Engineering.

Course contents:

1. Statistics Descriptive.

   Data representation in charts and tables, statistical measures for central tendency, dispersion, asymmetry and moments. Counting techniques.

2. Probability Theory.

   Basic concepts: random experiment, outcome space and event. Axioms. Independence, conditional probability and Bayes' Theorem.

3. Random variables and distributions.

   Definition, discreet, continuous and mixed random variables. Distribution function and probability density function. Some theoretical distributions for discreet and continuous random variables. Discreet uniform, Bernoulli, binomial, geometric, hyper-geometric, Poisson, continuous discreet, Gaussian, exponential and chi-square. Central Limit Theorem and applications.

4. Statistical Inference.

   Goals, population, sample and random sample. Sampling distributions. Parameter estimation: maximum likelihood method. Confidence intervals and hypothesis testing: methodology and examples (intervals/tests for expected value, difference between expected values, variance).

5. Correlation and regression.

   General notions of Multivariate Statistics. Correlation measures. Linear regression and method of least squares.

Recommended reading:

- *Maria Elisa Cunha. "Textos de apoio às aulas teórico-práticas"*
- *Mendenhall, W.; Beaver, R.; Beaver, B." Introduction to probability and statistics". 1999. Duxbury Press.*
- *Guimarães, R. C.; Cabral, J. S.. "Estatística". 1997. McGrawill.*
- *Fonseca, Jaime; Torres, Daniel. "Exercícios de Estatística", Vol I e II. 2000. Edições Sílabo.*

Teaching methods:

Classes include a brief theoretical exposition of each topic, practical examples of applicability and exercises. Students are given weekly exercise lists for home practice.

Assessment methods:

Three tests (T1, T2 and T3) throughout the semester graded on a scale from 0 to 20. The student will pass the course when two of (T1 >= 8.0, T2>=8.0 and T3>=8.0) are met and also

(0.2*T1+0.4*T2+0.4*T3>=9.5). The final graded is computed as (0.2*T1+0.4*T2+0.4*T3) rounded to the nearest integer. A student who does not pass the course may repeat the second test on the day of the regular exam.	
Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Information Systems / Information Technologies		
Field:	Basic Science		
Course code:	3166	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	2nd	**Semester:**	1st
ECTS:	4,0	**Hours/week:**	4h / TP
Name of lecturer:	Victor Gonçalves		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

The main issue of IS course is to teach the common principles and best practices for Information System (IS) Management, analyze different technology components that work as an IS: a set of solutions that are integrated or grouped together to act as a System that, in some manner, acts as an enabler or facilitator of Data, Information, and/or Knowledge

Common Information System (IS) Management related principles and best practices exist to help achieve higher than average expectations of quality and to use in the implementation, support, operations, and future change associated with the solutions industry professionals put in place to address the needs of this Discipline and all its related stakeholders.

The following are the goals and objectives of the IS discipline is to develop the student and give him:

1. The knowledge about information system more relevant concepts and definitions, and the more recent information technology that the student could apply on his future professional life;
2. The capacity to recognize relevant information in an organization and his importance;
3. The competences as a IT client that will allow to better communicate the requirements and approve them, explore databases to support decisions and to collaborate with an IT department;
4. The knowledge that allow to misunderstood how some IT solutions could be apply as the solutions to some business problems or needs;
5. The understanding about the mission, functions and role of an IT department and collaborate on the architecture and portfolio design and planning;

Course contents:

1. Information System needs and requirements on the actual organizations (main definitions and concepts)
   - 1.1. Information needs
   - 1.2. Understanding the concept of a system
   - 1.3. An enterprise as a system
   - 1.4. Types and functions of IS
   - 1.5. Information objects: events, activities and entities
   - 1.6. Information architecture
   - 1.7. Information documentation
   - 1.8. Cost of information and it nature
   - 1.9. Key questions and advantages
   - 1.10. Classifying the information
   - 1.11. IS evolution
   - 1.12. Knowledge management
2. IS implementation

2.1. Introduction and main steps
2.2. Hardware
2.3. Software
2.4. Communication and data warehouse
2.5. The human resources and education/training

3. An IS overview
3.1. Business process Management (BPM)
3.2. IS Development
3.3. IS exploration
3.4. Outsourcing Management

4. IS Management (ITIL)
4.1. Service Level Agreement (SLA) management and monitoring
4.2. Services process support and availability
4.3. System portfolio
4.4. Versions Managing
4.5. Project Management
4.6. Service Delivery
4.7. Performance Measurement

5. Requirements management
5.1. Why and how to manage
5.2. Requirements representation and communication
5.3. UML or Unified Modeling Language

6. IS representation
6.1. Flows and diagrams
6.2. Data dictionary managing
6.3. Metadata importance
6.4. Data Base and the main objects
6.5. The main steps to create a data base design

7. The applications IS technology to others disciplines
7.1. Electronic commerce: interoperability and network (EAI)
7.2. The organization on the network and Internet
7.3. Web Marketing
7.4. Geographic IS
7.5. Data Mining and Business Intelligence to support the decision process
7.6. Global Position System (GPS) and European Galileu: applications to transport and goods management and tracking and trace on real time (Just-in-time)

Recommended reading:

Main bibliography

- Documentation used on the class distributed by the teacher
- Information Systems Today, 2006 (Leonard Jessup & Joseph Valacich)

Other bibliography

- Information Society Glossary – APDSI (2005)
- Various articles available on *Web of Science*
- In all the class there will be distributed Internet URL, EU studies and directives, other standards and

legislation related with the subjects in agenda · Extending Google Docs to collaborate on research Papers · Learning society: the potential of the Internet · Use Cases (UML) · IT Governance: COBIT and ITIL; · The information quality role · Trust and Privacy Concern Within Social Networking Sites: A Comparison of Facebook and MySpace
Teaching methods:
The development of the discipline skills, such as critical sense or problem solving and the support of the vocational competencies, such as communication or team skills, will be present and a goal to be achieved. The lessons plan is supported by a practical component (40%) and a theoretical component (60%). Lessons plan will be carried out in several ways: Questioning, explaining, modeling, collaborating, and demonstrating. Collaboration (team work) allows students to actively participate in the learning process by talking with each other and listening to different points of view. The team work project is an example of this teaching method. Case studies will be used as a process of teaching, discussing examples from the industry or practical experiments, to promote the discussion between the students.
Assessment methods:
Two written and individual tests – 50% (25 % each test that can be replace by a final exam see conditions) Article development and respective presentation in the class (team work within groups with max. of 3 students) – 15%. The teacher will give completion dates for the articles presentations according to the program and the articles relevance; The deadline to deliver the presentations has to be respected otherwise there is a penalization of 5% (the value of the article will then be 10%); Teamwork is the action performed by a team towards a common goal. Students will have to do a work in group choosing the subject from a group of subjects proposed by the teacher (25%). The final report must be delivered in due time before the announced deadline. Class participation – 10% Attention: To be accepted to the exam, the student must do (mandatory) the team work and the article.
Language of instruction: Portuguese / English

Escola Superior Náutica Infante D. Henrique
Departamento de Transportes e Logística

2nd year of studies

2nd semester

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Transports Law		
Field:	Social Science		
Course code:	3167	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	2nd	**Semester:**	2nd
ECTS:	5,0	**Hours/ Type (T/P/TP):**	4h / T
Name of lecturer:	Ana Cristina de Almeida Pimentel		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Analysis of the different means of transport, by land, by sea and by air, in its different components, national, international, passangers and cargo, rights and liabilities of the various intervening parties, including the analysis of the forwarding agent activity and insurance.

Course contents:

I. INTRODUCTION

1. The commercial activity and the need for the exchange of goods (2 hours)
   Sale and purchase
2. Transport Law (2 hours)
   National and international sources
   Transport of persons and goods
   Transports under the Portuguese Commercial Code

II. INTERNAL AND INTERNATIONA TRANSPORT

1. Road transport (16 hours)
   Internal road transport of goods
   International road transport of goods
   Transport of passengers by road
2. Maritime transport (22 hours)
   The vessel
   The ship owner
   Maritime transport of goods
   Port operation
   Transport of passengers by sea
   The liability of the shipowner
   The arrest of vessels
3. Air transport (6 hours)
   Transport of goods by air
   Transport of passengers by air
4. Rail transport (4 hours)
   Transport of goods by rail
   Transport of passengers by rail
5. The forwarding agent activity (2 hours)

6. Transports and insurance (6 hours) The insurance of goods for transport risks The carrier civil liability insurance Insurance of vessels and P&I Clubs	
Bibliografia:	
· Helder Quintas e Amilcar Martins, Direito dos Transportes, Almedina, 2002 · Alfredo Proença, J.Espanha Proença, Transporte de Mercadorias por Estrada, Almedina, 2004 · Manuel Januário da Costa Gomes, Leis Marítimas, Almedina, 2007 · Duarte Lynce de Faria, O Transporte Internacional Marítimo de Mercadorias, Bertrand Editora, 1996 · Francisco Costeira da Rocha, O contrato de Transporte de Mercadorias, Almedina 2000 · José Lima Torres, Legislação Portuária, Almedina, 2001 · Andrew Messent with David A. Glass Hill & Messet CMR: Contract for the International Carriage of Goods by Road , Second Edition, Lloyd's of London Press, 1995 · José Miguel de Faria Alves de Brito, Seguro Marítimo de Mercadorias, Almedina 2006 · José Vasques, O Contrato de Seguro, Coimbra Editora, 1999	
Teaching methods:	
Presentation of the subjects, analysis of cases and analysis of court decisions	
Assessment methods:	
The assessment is made on the basis of two tests on the subjects studied plus the intervention of the student on the classes on a regular basis. The tests will be given one at the middle of the semester and the other at the end of the semester, on a date to be schedules with the students. The presence in the classes and the intervention of the student will be considered The final mark for the unit, between 0 and 20, will result from the arithmetic average from the following percentages 1st test 50%; 2nd test plus intervention of the student 50% The lack of positive result, with a mark inferior to 10, will imply the need for the final exam to be taken	
Language of instruction:	Portuguese / English

Bachelor Course in Transport Management and Logistics

Description of individual course unit

Course title:	Transport Economics		
Field:	Economy and Management		
Course code:	3168	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	2nd	**Semester:**	2nd
ECTS:	5,0 ECTS	**Hours/ Type (T/P/TP):**	4h / T
Name of lecturer:	Fernando Cruz Gonçalves		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Throughout the course students will develop academic, technical and human skills, particularly focusing on the aspects of capacity for reflection, leadership skills, critical thinking, innovation and relationship skills in group work.

At the end of the syllabus of the course, students should be able to:

- Apply economic concepts to the general activity of transportation in particular, viewed on a logic of integration into global logistics chains;

- Consider the positioning of the transport activity within the economy and identify the key trends for its development, either nationally or internationally and evaluate the effects of sectoral activity in terms of the economy;

- Identify, assess, minimize and monetary value of the main transport externalities (externalities of transport as a source of distortion of competition between modes of transport);

- Assess whether market power exists, what its consequences and the mechanisms of action to avoid its negative consequences;

- Define the most appropriate transport policies in the light of developments in the instruments of pricing;

Course contents:

1. Transport Economics – Background
    - 1.1. Introduction
        - 1.1.1. Scope and Methodology Approach
        - 1.1.2. Methods of Evaluation
    - 1.2. Theoretical Framework
        - 1.2.1. Economic Concept of Transportation
        - 1.2.2. The role of Transport
        - 1.2.3. Economic Activity and Transport
        - 1.2.4. Emerging Trends in the Transport Industry

BIBLIOGRAPHIC SUPPORT

- Teacher's notes and handouts;

- TRANSPORT ECONOMICS - Chapter I (Transport and Economics) / - Chapter II (Movement, Transport and Location)

2. Demand for transport – demand function
    - 2.1. Derived Demand
    - 2.2. Factors influencing the Demand
    - 2.3. Elasticity of Demand
        - 2.3.1. Elasticity of Demand

2.3.2. Cross Elasticity of Demand

2.4. Monetary valuation of the Time Factor

BIBLIOGRAPHIC SUPPORT

- Teacher's notes and handouts;
- TRANSPORT ECONOMICS - Chapter 3 (The Demand for Transport)

3. Transport supply

3.1. Cost Analysis

3.1.1. Total Cost

3.1.2. Unit Costs

3.1.3. Marginal Cost

3.2. Factors influencing the Supply

3.3. Economies of Scale and Scope

BIBLIOGRAPHIC SUPPORT

- Teacher's notes and handouts;
- *TRANSPORT ECONOMICS - Chapter 4 (The Direct Costs of Transport)*

4. Externalities of transport

4.1. Externalities definition

4.2. The externalities of Transport

4.2.1. Congestion

4.2.2. The Transport Accident

4.2.3. The Air Pollution

4.2.4. The C02 emissions (Kyoto Protocol)

4.2.5. The Noise

4.2.6. The Visual Intrusion

4.3. Monetary valuation of externalities of transport

4.4. Case Study

BIBLIOGRAPHIC SUPPORT

- Teacher's notes and handouts;
- *TRANSPORT ECONOMICS - Chapter 5 (The External Cost of Transport)*

5. Pricing of transport services

5.1. Pricing

5.2. Pricing by Marginal Cost

5.3. Price Discrimination

5.4. The Effect of Subsidies in the Transport Sector

5.5. Case Study

BIBLIOGRAPHIC SUPPORT

- Teacher's notes and handouts;
- *TRANSPORT ECONOMICS - Chapter 6 (Pricing of Transport Services)*

6. Seminar – Transport economics

It will be a guest expert in the field of Transport Economics to conduct a lecture related to the thematic content of the discipline. Students have to prepare a synthesis report, addressing the problem developed, the main topics of the intervention and its main conclusions

7. Transport market

7.1. Definition of Market

7.2. Market Structure

7.2.1. Monopoly

7.2.2. Oligopoly

7.2.3. Monopolistic Competition

7.3. Measures of Concentration

7.4. Transport Market

7.4.1. Maritime Transport Market

7.4.2. Road Transport Market

7.4.3. Rail Market

7.4.4. Air Transport Market

7.5. Case Study

BIBLIOGRAPHIC SUPPORT

- Teacher's notes and handouts;

- *INDUSTRIAL ECONOMY (Luis Cabral) - CHAPTER 2 (Market Structure)*

8. Minimization of transport externalities

8.1. The Principle of "User Pays" - an emanation of the principle of "Polluter Pays"

8.2. Community Policy on Transport and Environment

8.2.1. Sustainability

8.2.2. Economic Efficiency

8.2.3. Economic Competitiveness

8.2.4. Equity

8.2.5. Cooperation

8.3. Main Critics to European Transport Policy

8.4. Case Study

BIBLIOGRAPHIC SUPPORT

- Teacher's notes and handouts;

- *TRANSPORT ECONOMICS - Chapter 7 (Containing the External Costs of Transport); Chapter 10 (Transport and Development)*

9. Competition

9.1. Competition Policy

9.1.1. Horizontal Agreements

9.1.2. Vertical Relations

9.1.3. Abuse of Dominant Position

9.1.4. Mergers Policy

9.2. Market Regulation

9.2.1. Setting Price

9.2.2. Setting the Entry

9.2.3. Imperfect Information

9.3. Regulation of Companies

9.4. Case Study

BIBLIOGRAPHIC SUPPORT

- Teacher's notes and handouts;

- *TRANSPORT ECONOMICS - Chapter 11 (The Regulation of Transport)*

Recommended reading:

The notes and handouts will be provided by the teacher. It is also advisable for the deepening of some syllabuses consulting the following books: · Button, Kenneth, Transport Economics, Edward Elgar, 3nd Edition, 2004; · Cabral, Luis; Industrial Economics, McGraw Hill, 2002.
Teaching methods:
The teaching methodology aims to active and dynamic, focusing on the contact teacher / student. In addition to the presentation of the syllabus, students will be encouraged to submit work groups (2-3 students) on Case Studies provided by the teacher / prepared by students, for each of the subjects discussed.
Assessment methods:
Continuous Evaluation: Continuous assessment involves the following evaluation criteria: - 2 Written Test (without consultation) - Single Weight Ratio = 70%; - "Case Studies" - Weight = 25%; - Seminar - Individual relative weight = 5% **Final Exam:** All students who obtain a weighted average of the three criteria set under the continuous assessment of less than 9.5 shall be subject to final examination of the discipline. The final exam of the course will consist of a written test (two hours, without consultation), that will be addressed in the main program content of the discipline.

Language of instruction:	Portuguese / English

Bachelor Course in Transport Management and Logistics

Description of individual course unit

Course title:	Transport Infrastructure		
Field:	Logistics & Transports		
Course code:	3169	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	2nd	**Semester:**	2nd
ECTS:	5,0	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Fernando Cruz Gonçalves		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Throughout the course students will develop academic, technical and human skills, particularly focusing on the aspects of capacity for reflection, leadership skills, critical thinking, innovation and relationship skills in group work.

At the end of the syllabus of the course, students should be able to:

- Transmit an integrated view of Transport Infrastructure conceptualized as integrators of supply chains, ensuring a permanent and regular flow of people, goods and information;
- To present the main trends in investment and pricing of transport infrastructure;
- Reflect, analyze and plan the future development of the National Logistic System.

Course contents:

1. Introduction – Transport infrastructure
   - 1.1. Scope and methodology approach
   - 1.2. Theoretical framework
     - 1.2.1. Definition and role of transport
     - 1.2.2. Economic activity and transportation
     - 1.2.3. Supply chain / logistics network
     - 1.2.4. Multimodality / intermodal / combined transport
   - 1.3. Emerging trends in the transport industry
   - 1.4. Transport infrastructure
2. Transport infrastructure
   - 2.1. Determinants of the transport infrastructure
   - 2.2. Principles of transport policy
   - 2.3. Priority axes of intervention
   - 2.4. Objectives of the European transport policy
   - 2.5. Investment in transport infrastructure
3. TEN – Trans-European Transport
   - 3.1. Definition of TEN
   - 3.2. TEN priority projects
   - 3.3. Financing of TEN
   - 3.4. *Case Study* (TEN)
4. Road Infrastructure
   - 4.1. National road market
   - 4.2. Characteristics of the road transport sector

4.3. Road infrastructure
4.4. Bus terminals
4.5. *Case Study*

5. Rail infrastructure
   5.1. Rail freight
   5.2. Rail freight structure
   5.3. Future prospects of the rail freight
   5.4. Strategic vectors for the development of rail freight
   5.5. Rail infrastructure
   5.6. Railway superstructure
   5.7. Railway interfaces
   5.8. *Case Study*

6. Airport infrastructure
   6.1. Air cargo market
   6.2. Airport infrastructures
      6.2.1. Portela Airport
      6.2.2. Francisco Sá Carneiro Airport
      6.2.3. Faro airport
   6.3. Layout / capacity problems
   6.4. Future prospects
   6.5. *Case Study*

7. Port facilities
   7.1. Maritime markets
   7.2. Port infrastructure
   7.3. Port superstructures
   7.4. Parks and containers
   7.5. Definitions of the national port system
   7.6. *Case Study*

8. Seminar – Transport infrastructure

   It will be a guest expert in the field of Transport Infrastructure which will hold a lecture related to the thematic content of the discipline.

   Students have to prepare a synthesis report, addressing the problem developed, the main topics of the intervention and its main conclusions.

9. National logistics system
   9.1. Logistics infrastructure
   9.2. "State of the art" national logistics system
   9.3. Analysis of the logistic system of other EU countries (Spain, France, Germany)
   9.4. Assessment of logistic potential
   9.5. Logistics strategy
   9.6. Implementation of the national logistics system
   9.7. *Case Study*

10. National network platform logistics
    10.1. Definition of logistics platforms
    10.2. Layout and features

10.3. Management models

10.4. National network of logistic platforms

10.4.1. Multimodal platform

10.4.2. Platform unimodal (goods transportation center)

10.4.3. ZAL – Logistics Activities Zone

10.4.4. Dry port

10.5. *Case Study*

Recommended reading:

The notes and handouts will be provided by the teacher. It is also advisable for the deepening of some syllabuses consulting the following books:

- White Paper - European Transport Policy, European Commission, 2011;
- Portugal Logistics, MEPAT 2007;
- PRN - National Road Plan, IEP, 2001;
- Strategic Guidelines for the Rail Transport Sector, MEPAT, 2006;
- Strategic Guidelines for Maritime Transport Sector, MEPAT, 2008;
- Van Miert Report - Report of the High Level Group for the Implementation of TEN, DGTREN 2006.

Teaching methods:

The teaching methodology aims to active and dynamic, focusing on the contact teacher / student. In addition to the presentation of the syllabus, students will be encouraged to submit work groups (2-3 students) on Case Studies provided by the teacher / prepared by students, for each of the subjects discussed.

Assessment methods:

Continuous Evaluation:

Continuous assessment involves the following evaluation criteria:

- 2 Written Test (without consultation) - Single Weight Ratio = 70%;
- "Case Studies" - Weight = 25%;
- Seminar - Individual relative weight = 5%

Final Exam:

All students who obtain a weighted average of the three criteria set under the continuous assessment of less than 9.5 shall be subject to final examination of the discipline.

The final exam of the course will consist of a written test (two hours, without consultation), that will be addressed in the main program content of the discipline.

Language of instruction:	Portuguese/ English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Operations Research		
Field:	Basic Science		
Course code:	3170	**Type of course:**	Mandatory
From:	2010/2011		
Year of study:	2nd	**Semester:**	2nd
ECTS:	6,0	**Hours/ Type (T/P/TP):**	5 / TP
Name of lecturer:	Maria Elisa Cunha		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

To answer to the students question's expectation on what is Operations Research (OR) and its utility to the decision making. To endow the students with some methodologies used by OR to model case studies of the management area.

Course contents:

1.	Overview of Operations Research	1 hour
1.1.	The origin, the nature and the impact of Operations Research	
1.2.	Mathematical Operations Research models	
1.3.	Art of modeling	
2.	Overview of the operations research modeling approach	9 hours
2.1.	Defining the problem and gathering data	
2.2.	Formulating a mathematical model	
2.3.	The linear programming model	
2.4.	Assumptions of linear programing	
3.	Solving linear programming problems: the simplex method	6 hours
3.1.	The graphic method	
3.2.	The simplex method	
3.3.	Using matrices to implement the simplex method	
4.	Duality theory and sensitivity analysis	20 hours
4.1.	Definition of the dual problem	
4.2.	Relationship between optimal primal and dual solutions	
4.3.	Economic interpretation of duality	
4.4.	Dual simplex method	
4.5.	Primal-dual computation	
4.6.	Post-optimal and sensitivity analysis	
5.	Transportation Models and assignment problems	14 horas
5.1.	Definition of the Transportation Model	
5.2.	Non-traditional Transportation Model	
5.3.	A streamlined simples method for the transportation problem – the Transportations Algorithm (determination of the starting solution and the iterative computations until optimal solution – The Dantzig method)	
5.4.	The assignment model – the Hungarian method	
5.5.	The transshipment problem	

6. Queuing theory 6.1. Terminology 6.2. Some arrival and services processes 6.3. The arrival and service distribution functions 6.4. The M/M/1 and M/M/s queuing systems	10 hours

Recommended reading:

- Cunha, Maria Elisa. "*Investigação Operacional – Apontamentos*". AEENIDH ENIDH
- Hillier, Frederick; Lieberman, Gerald. "*Introduction to Operations Research*", 9th Edition. 2009. Boston, USA: McGraw-Hill International Editions. ISBN 978-0071267670.
- Hillier, Frederick; Lieberman, Gerald. "*Introdução à Pesquisa Operacional*", 8ª Edição. 2010. S. Paulo McGraw-Hill Brasil. ISBN 978-8586804687.
- Winston, Wayne. "*Operations Research – Applications and Algorithms*", 4th Edition. Belmont, USA: Duxbury Press. ISBN 978-0534423629.
- Taha, Hamdy A. "*Operations Research – An Introduction*", 9th Edition. 2010. London, UK: Pearson Education. ISBN 978-0131391994.

Teaching methods:

Classes include a brief theoretical exposition of each topic, practical examples of applicability and exercises. Students are given weekly case studies list for home practice.

Assessment methods:

1. Continuous assessment, including:

(a) 3 case studies, allotted 1h30m each, graded on a scale of 0 to 20, of which the arithmetic average of the 2 best is computed (BT). Each undelivered assignment is graded as 0 (zero).

(b) The student will pass the course whenever BT ≥ 9.5, the final grade will be computed rounded E to the nearest integer.

2. Final exam about all subject focus on the course, allotted two hours, is graded on a scale of 0 to 20 (E). The student will pass the course whenever E >= 9.5, the final grade being then computed as E rounded to the nearest integer.

Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Logistics I		
Field:	Logistics & Transports		
Course code:	3171	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	2nd	**Semester:**	2nd
ECTS:	5,5	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Carlos Alberto Pereira dos Santos		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

This course aims to provide the know and understand the importance of the role and the transverse dimension of logistics in the economy, as well as, and how the supply chain is articulated in terms of integration, management and configuration, including the issue of Reverse Logistics and what the financial impact of stocks in companies and organizations.
At the end of this course students should master the concepts, objectives, and collaborative strategies applied throughout the supply chain.

Course contents:

1. The role of logistics in the economy and in organizations
   - 1.1. The role of logistics in organizations
   - 1.2. The development of logistics management
   - 1.3. Fundamental activities
   - 1.4. The concept and the importance of the total cost
2. Integration of supply chain
   - 2.1. The supply chain logistics
   - 2.2. Customer Service
   - 2.3. Integration of supply chain
   - 2.4. Case Study
3. Supply chain management
   - 3.1. The traditional paradigms
   - 3.2. "push" vs. "pull" strategies
   - 3.3. Relationship strategies with partners
   - 3.4. Collaborative strategies (VMI, CRP, JIT, ECR, CPFR, 4PL)
   - 3.5. Case Study
4. Configuration of the logistics chain
   - 4.1. Distribution channels strategy
   - 4.2. Postponement strategies
   - 4.3. Option for outsourcing of logistics operations
   - 4.4. Configuration of the logistics chain (centralization / decentralization)
   - 4.5. Case Study
5. Reverse logistics chain
   - 5.1. The context
   - 5.2. Process return

5.3. Reverse Logistics 5.4. Case Study 6. The financial impact of stock 6.1. The financial aspects of stock 6.2. The carrying cost 6.3. The relationship between the cost of ownership and supply chain 7. Development of case studies 8. Seminar: Logistics Management
Recommended reading:
· "Logística e Gestão da Cadeia de Abastecimento", José Crespo de Carvalho e Outros (2010), Edição Sílabo, Portugal · "Logística", José Mexia Crespo de Carvalho (2004), Edições Sílabo · "Logística Global e Macrologística", João Carlos Quaresma Dias (2005), Edições Sílabo · "Logistics and Supply Chain Management: Strategies for Reducing Costs and Improving Services", Christopher, Martin (1992), Pitman Publishing, London.
Teaching methods:
Expositive classes supported in PW (Power Point) on the issues that are supplemented with examples and practical exercises. Practical classes that are used in the preparation and monitoring of Teamwork made by Student (s) on current reality of logistics. The result of this work will be presented on how to seminary.
Assessment methods:
Single Assessment Process Continuous: 10% - Attendance 20% - Note from Teamwork to present at the Seminar on Logistics Management 70% - The arithmetic mean of the result of two (2) individual tests
Language of instruction: Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Organizational Behavior		
Field:	Social Sciences		
Course code:	3172	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	2nd	**Semester:**	2nd
ECTS:	4,0	**Hours/week:**	2h / T
Name of lecturer:	Fernando José da Cruz Gonçalves		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Assuming that the discipline of Organizational Behavior is provided under a degree in Transport Management and Logistics and Port Management, we tried to adapt the basic knowledge that are the objects of scientific sociology and psychology to the analysis of organizational behavior, viewed from the perspective of transport, port management and logistics.

Throughout the course students will develop skills in academic, technical and human, particularly focusing on the aspects of capacity for reflection, leadership and responsiveness in emergency situations.

At the end of the syllabus of the course, students should be able to:

- Identify the reasons for the behavior of an individual or group within an organizational context;
- Identify in advance the consequences of actions, policies or strategies that are intended to carry out;
- Identify what the most effective measures to achieve the desired behavior, always with a view to improving organizational effectiveness and efficiency.

Course contents:

1. Concept of organization
   - 1.1. Conceptual and Methodological Issues in the Study of Organizations
   - 1.2. Concept of Organization
   - 1.3. Organizational Behavior
     - 1.3.1. Objectives of the Study of Organizational Behavior
     - 1.3.2. Level Analysis of Organizational Behavior
2. Classical approach of organizations
   - 2.1. The Classical Approach to Management
   - 2.2. The Scientific Organization of Labor of Taylor
   - 2.3. Fayol's Administrative Theory
   - 2.4. Weber's Bureaucracy and Organizational Structure
   - 2.5. Structure of Organizations
   - 2.6. Advantages and Limitations of the Classical Approach
3. The human factor in organizations
   - 3.1. Human Relations
   - 3.2. A Psychological Approach to the study of organizations
     - 3.2.1. Maslow's Hierarchy of Needs
     - 3.2.2. McGregor (Theory X and Y)
     - 3.2.3. The Two Factor Theory Hertzberg
   - 3.3. Application of Motivational Theories Organizational Context

3.4. Training, Motivation and Recruitment of Seamen within the EU

4. New organizations paradigms

4.1. The Systemic Paradigm in the Study of Organizations

4.2. A Contingency Approach to the study of organizations

4.3. A Neoclassical Approach to the Study of Organizations

4.3.1. The Origins and Foundations of the Neoclassical Theory

4.3.2. Management by Objectives (Peter Drucker)

5. Crowd control

5.1. Leadership (Personality traits and individual skills / management system of authority and command/ Selection of "leaders")

5.2. Communication (Barriers to satisfactory communication between crew / instructions to passengers/ Guidance and assistance to passengers / Communication processes and information on board ships)

5.3. Stress Management (Stress Management in Emergency situations / Conflict Management / Factors influencing the behavior of man in the sea / knowledge and procedures to be performed by crew in dangerous situations or emergency)

5.4. Familiarization RO-RO ships (Features / Special features RO-RO vessels / Cargo Handling / Opening, closing and locking openings in the hull)

5.5. Passenger Safety (Emergency Planning, procedures, and exercises / Emergency Response/ Emergency Scenarios)

6. A contemporary approach of organizations – Individual aspects of organizational behavior

6.1. Personal Skills, Personality and Values

6.2. Perceptions, Attributions and Attitudes

6.3. Motivation

6.4. Stress and Wellness

6.4.1. Management of Stress

6.4.2. Management of Stress in crisis situations

6.4.3. Contingency Plans

6.5. Rational Decision Making

7. Contemporary approach of organizations – Social aspects of organizational behavior

7.1. Dynamic Training Group / Working Group

7.1.1. Groups Formal / Informal Groups

7.1.2. Groups Homogeneous / Heterogeneous Groups

7.1.3. Relationship vs. Group Work Performance

7.2. Leadership

7.3. Conflict Management

7.3.1. Evolution of conflict approach

7.3.2. Conflict Functional / Dysfunctional Conflict

7.3.3. Conflict vs. Performance

Recommended reading:

The notes and handouts will be provided by the teacher. It is also advisable for the deepening of some syllabuses consulting the following books:

- Chambel, Maria Jose / Corral, Luis; Social Psychology of Organizations; Text Editor 3. Edition, July 2000;
- Fer reira, JM Carvalho / Abreu, José Neves Nunes / Caetano, Antonio; Social Psychology of Organizations, McGraw-Hill, 1996;
- - Ferreira, JM Carvalho / Peixoto, John / Carvalho, Anabela Soriano / Raposo, Rita / Grace, John Carlos / Marques, Rafael; Sociology, McGraw-Hill, 1995;

Teaching methods:
The teaching methodology aims to active and dynamic, focusing on the contact teacher / student. In addition to the presentation of the syllabus, students will be encouraged to submit work groups (2-3 students) on Case Studies provided by Professor about real situations in maritime activity.
Assessment methods:
1 - An Assessment Test (95% - Final Note); 2 - Optional Work Individual or in group (preferably a group) on a topic related to the course syllabus. This work will be evaluated according to their content, capacity for reflection, degree of innovation, adaptation to the formalism and academic ability as evidenced by students in the presentation and discussion of the issue before their colleagues. 3 - Participation, which involves class participation, capacity for reflection, attendance and attitudes of students in class (5% - Final Note). 4 - All students who obtain a weighted average of the criteria set under the continuous assessment of less than 9.5 shall be subject to final examination of the discipline. The final exam of the course will consist of a written test (two hours, without consultation), that will be addressed in the main program content of the discipline.

Language of instruction:	Portuguese / English

Escola Superior Náutica Infante D. Henrique
Departamento de Transportes e Logística

3rd year of studies

1st semester

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Warehouse Management		
Field:	Economics & Management		
Course code:	3173	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	3rd	**Semester:**	1st
ECTS:	5,0	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Ricardo Jorge Gomes Felix		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

The course focusing in the value creation of warehousing both in the value and supply chain.

The course will explore the warehouse function in logistics systems, as a fundamental part of the logistic equation of total cost and value creation

The course will give students core skills in warehouse management in all aspects, like defining location, lay-outs and capacities, processes, organization, information systems and technics of optimization of capacities and the total cost.

Course contents:

"Module I: Warehousing in the broad frame of Value and Supply Chain "

1. Warehousing as a function and the warehouse as a organ of the logistic system
   - Warehousing and value creation in the supply chain
   - The Warehouse Management in the frame of Supply Chain Management
   - The warehouse as a trade-off management and internal and external externalities
   - Warehouse and warehouse management in strategic logistic management
   - Challenges in actual context in warehouse management

Module II Determination in a quantitative way, both capacities and operational Lay-Outs

2. Warehouse Logistic solutions and supply-chain design options
   - Logistic technical requirements by product (bulk and packed), sales channel, location and
   - positioning in the supply
   - Model Planning of Logistic network and warehousing - Location and dimensioning drivers
   - Variables that determine de quantitative dimensioning of warehouse capacities
3. Lay-Out and Operations
   - Processes and organization of the work force in warehouse operations
   - Strategy for management space – Operations platforms dimensioning
   - Design, conception, and design and functionality to optimize for a product mix
   - Multi-temperature and multi-usage Warehouses
   - Distribution center vs. factory warehouse of finish goods
   - Dedicated warehouse vs. multi-client warehouse
   - Sorting and routing platforms
   - Equipment – Racks and Lift trucks

Module III: Technical tools for warehouse Management

4. Planning and Operational and economic controls – Costs and Value creation
   - ABC Costing - Activity Based Costing

- Fixed and variable costs and the impact on strategy and operations in warehouse management
- Cost/Benefit Analysis of the automatism intensity for a given product mix
- Planning and Budgeting – How to create and utilize these management tools
- HR warehouse management – Work force organization and organization culture and individual skills
- Warehouse and logistic audits
- KPI´s as a management tool in the management system – Definition and operationalization of a operational and economical dash-board
- Scorecards of Performance control

Module IV: Warehouse management Information Systems

5. Warehouse management Information Systems
   - WMS-RF, Operational Control and Optimization
   - Data Acquisition and operational and cost impact - Conventional, Voice-Picking, Picking by Light, etc
   - Rastreability and Supply-Chain Integration
   - Evolution of Warehouse management with the usage of RFID

Modulo V: Visits and Case-Studies

6. Practical Classroom - Outside Campus/Inside Real Life Warehouse Operations
   - Technical and Practical Lessons by practitioners in visiting Logistic Platforms and/or Distribution and/or Warehouse Factory
   - Case-Studies discussions

Recommended reading:

- Auditoria Logística, Ed. J.Crespo Carvalho e Vítor Carvalho, Sílabo
- Practical Handbook of Warehousing, Kenneth B. Akerman, Van Nostrand Reinhold,1990
- Fundamentals of Logistics Management, D. Lambert, J. Stock, L. Ellram, Ed. McGraw-Hill Intern.
- Complete Guide to Modern Warehouse Management, Creed H. Jenkins, 1990 Prentice Hall
- Links de sites e videos (youtube) recommended and viwed in classroom

Teaching methods:

Lessons in classroom, practical work , visits and lessons by practitioners on site with real warehouse management operations

Assessment methods:

2 Tests and a workgroup

Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Logistics II		
Field:	Logistics & Transports		
Course code:	3174	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	3rd	**Semester:**	1st
ECTS:	5,5	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Carlos Alberto Pereira dos Santos		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

This course aims to provide mastery of the concepts and activities in the supply chain, supporting the flow of materials from supplier to consumer.
At the end of this course students should master the concepts, objectives, activities, and techniques of Purchasing Management, Material Flow Management, Inventory Management, Services to Customers, and Contract Transportation.

Course contents:

1. Purchasing
   - 1.1. The role of purchasing in the supply chain
   - 1.2. Activities of purchases
   - 1.3. Objective and role of operational and strategic procurement
   - 1.4. Selection and evaluation of suppliers
   - 1.5. Shopping in JIT system
2. Materials Management
   - 2.1. Concept of Materials Management
   - 2.2. Scope of activities of materials management
   - 2.3. Resource planning (demand characteristics)
   - 2.4. The importance of forecast
     - 2.4.1. Reasons for the need of forecasts
     - 2.4.2. Types of forecast
     - 2.4.3. Table of the forecast
   - 2.5. The management and control of material flow
     - 2.5.1. The Bill of Materials (BOM)
     - 2.5.2. The Master Production Plan
     - 2.5.3. The logic behind MRP I and MRP II
3. Inventory Management
   - 3.1. Classification and objectives of the models
   - 3.2. Operational costs of the storage system
   - 3.3. Deterministic models
     - 3.3.1. Replacement instant shortages not allowed
     - 3.3.2. Replacement instant shortages allowed
     - 3.3.3. Replacement not instantaneous, poverty is not allowed
     - 3.3.4. Quantity discounts

3.4. Stochastic models
3.4.1. Storage policies
3.4.2. Policy-level order
3.4.3. Cyclical policy review
3.4.4. ABC Analysis

4. Customer service
4.1. Concept of customer service
4.2. Elements of customer service
4.3. Increasing customer expectations and the importance of logistics in order to perfect attendance
4.4. Value added services
4.5. Methodologies to establish a customer service strategy

5. Transport Management
5.1. Selection the mode of transport
5.2. Challenges for road transportation
5.3. Selection of vehicles
5.4. Management of a fleet of vehicles
5.5. Size and composition of a fleet
5.6. Algorithms for identifying routes

Recommended reading:

- "Logística", José Mexia Crespo de Carvalho (2004), Edições Sílabo
- "Gestão de Operações na Indústria e nos Serviços", João Paulo Pinto (2006), Lidel – Edições Técnicas, Lda
- "Logistics and Supply Chain Management: Strategies for Reducing Costs and Improving Services", Christopher, Martin (1992), Pitman Publishing, London.
- "Introduction to Materials Management, Sixth Edition", APICS, J.R. Tony Arnold, Stephen N. Chapman, Lloyd M. Clive

Teaching methods:

Expositive classes supported in PW (Power Point) on the issues that are supplemented with examples and practical exercises.

Study visit in company.

Assessment methods:

Single Assessment Process Continuous

15% - Attendance

15% - Participation in classes - Positive Attitude

70% - Arithmetic mean of the result of two (2) individual tests

Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Cargo Systems and Transportation		
Field:	Logistics & Transports		
Course code:	3175	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	3rd	**Semester:**	1st
ECTS:	5,0	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Orlando Mota Duarte		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

To systemize the cargo types that circulate in the market, teaching how properly and carefully load, handle, stow, carry, keep, care for and discharge the goods carried.

To analyze the various transport means and its distinct characteristics, describing the diverse handling, reception and storage methods.

To make familiar students to equipment and technologies used in the shipment in various transport means with different cargo units with the aims to prepare them for well accomplish the future professional activity

Course contents:

1. Introduction
   - 1.1. Cargo stowage factors. Particulars. Broken stowage
   - 1.2. Conversion factors / tables
2. Cargoes
   - 2.1. World merchandise trade, by major products, origin and destination
   - 2.2. Types of Cargo: Particulars, stowage and lashing methods
   - 2.3. Special cargoes : homogeneous / bulk, dangerous goods (IMDG Code),refrigerated (Frozen / valuable, heavy, deteriorative
   - 2.4. Packages. Marks. Labels
   - 2.5. Unitization : Pallets, Containers, Swap-Bodies, Pre-slinged cargo, trailers, other
3. Transportation means
   - 3.1. Characteristics and types. Loading / unloading systems. Regulation.
   - 3.2. Road
   - 3.3. Rail
   - 3.4. Waterways
   - 3.5. Air
   - 3.6. Pipeline
4. Cargo Handling
   - 4.1. Drawings and descriptions of cargo handling gear
   - 4.2. Horizontal intermodal container handling systems equipment
   - 4.3. Vertical intermodal container handling systems equipment
5. Ports, Terminals and Parks. Storage
   - 5.1. Lay-outs
   - 5.2. Equipment and performances

Recommended reading:
· Course unit notebook (2012) · Thomas' Stowage – O.O. Thomas · Ships and their cargoes – Brown, Sin & Fergunson, Glasgow · Arrimage, Manutention et Transport de Merchandises – P. Garoche · Mercancias Peligrosas – M.A.G. Lopez ,Etrasa – Madrid · Container Handbook (www.containerhandbuch.de) · Guia Prático de Estiva – Herculo Afonso, A. Reis · Arte Naval Moderna – Rogério C. Silva
Teaching methods:
The theoretical and practical knowledge in these matters, whenever possible, to be giving together with examples of real cases, studying the results and conclusions. Use of "Power Point" to present equipment images and solutions of transport, reception and storage of different merchandises. Information / suggestion of professional internet sites, as well as national / international transport matters will be discussed and debated in classroom. The students will have to search independently and to study in detail some transport mean and/or loading systems or other related item in order to present it as a dissertation. Special relevance to study visits to ports, terminals, container parks, warehouses, etc..
Assessment methods:
Individual or group paper works, assiduity and interest for the Class lessons (20 %) Two written tests (40 % + 40 %) Written test notes less than 7 (0 – 20 scale) will lead students to final examination

Language of instruction:	Portuguese and English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Economics of Road Transport of Goods		
Field:	Economics & Management		
Course code:	3176	**Type of course:**	Optional
From:	2011/2012		
Year of study:	3rd	**Semester:**	1st
ECTS:	4,5	**Hours/ Type (T/P/TP):**	4h / T
Name of lecturer:			
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Students will develop skills: In practical look of the characteristics of the market for Road Transport, through a set of information, use of methodologies and analytical tools that allow you to understand and update such information and interpret them independently.

Course contents:

1. The Search
   - 1.1. Definition
   - 1.2. Indicators
   - 1.3. Composition
   - 1.4. Goods moved
   - 1.5. Production Transport
   - 1.6. Mean distance from each ton
   - 1.7. Average load for each kilometer
   - 1.8. Array of sources and destinations
   - 1.9. Modal split of Search
   - 1.10. Portuguese share of vehicles in international transport
2. The Offer
   - 2.1. Definition
   - 2.2. Economic Policy for Transport
   - 2.3. Indicators: Number of enterprises and supply capacity, degree of capacity utilization; structure of supply Variety of Services
3. Cost Analysis and Price Formation
   - 3.1. Affectation of Nature Resources and Costs
   - 3.2. Short and Long Term
   - 3.3. Fixed Costs and Variable Costs
   - 3.4. Efficient combination of factors
   - 3.5. Rule of Minimum Cost
   - 3.6. Marginal Costs
   - 3.7. Great size and balance of the company
   - 3.8. Supply Curve
   - 3.9. Cost Accounting and Economic Costs
   - 3.10. Opportunity Costs

Recommended reading:

· INE · Eurostat · Wood Ward, Frank H., "Managing the Transport Services Function", Gower Press, 1977. · Cooke, Peter N. C., "Financial Analysis of Motor Transport Operations", Gower Press Limited, 1974.	
Teaching methods:	
In class exercises are performed analysis and calculation depicting the subjects taught in order to increase the efficiency of learning and encouraging the active participation of students.	
Assessment methods:	
2 assessment tests	
Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Maritime and Port Economy		
Field:	Economics & Management		
Course code:	3177	**Type of course:**	Optional
From:	2011/2012		
Year of study:	3rd	**Semester:**	1st
ECTS:	4,5	**Hours/week:**	4h / T
Name of lecturer:	Eduardo da Silva Martins		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

The main objective of the course is to give students essential knowledge of maritime (shipping) and port economy.

The work seeks to give an economic framework on activities, enabling students with the information and tools they need to understand and interpret the main points and economic developments of the activity.

In detail, the following objectives have been identified for the discipline:

- Identify the main economic factors of maritime industry and port activity, in the context of multimodal transport chain and within the framework of both, international and national economy context;
- Consider the economic positioning of maritime activity in the economy and identify the main trends for its development, at national and international context and evaluate the consequences for sectoral activity in the national economy.

Course contents:

1. Introduction and objectives (2h)
   - 1.1. Scope and methodology of approach
   - 1.2. Objectives of Maritime and Port economy
2. Main characteristics of shipping activity (4h)
   - 2.1. Essential characteristics of maritime Activity
   - 2.2. Main agents involved in the sectorial activities
3. The importance of shipping in international trade (4h)
   - 3.1. The transport activity in the context of the economic system
   - 3.2. Role of Maritime Transport
   - 3.3. International trade
4. Market segmentation in shipping (4h)
   - 4.1. Cargo types
   - 4.2. Service types
5. Supply and demand for maritime transport (8h)
   - 5.1. Supply and demand for global Shipping
   - 5.2. Trends in ship's prices and freight rates
   - 5.3. Recent discussions on maritime policies
6. State intervention in shipping activities (4h)
   - 6.1. Nationalism and Interventionism in maritime transport
   - 6.2. Main maritime policy measures adopted world-wide
   - 6.3. Recent developments in the world-wide debate of maritime policy

D Costa

6.4. Prospects for liberalization of trade policies

6.5. Development prospects in the context of liberalization and regionalization

7. Shipping and ports (6h)

7.1. Ports as modal interface

7.2. Characteristics and main functions of port activity

7.3. Port Community

7.4. Main types of ports in the integrated system of the transport chain

7.5. Major world-wide ports

8. Global trends in port management (6h)

8.1. Objectives of the port management

8.2. Arrangements for port management

8.3. Role and functions of port authorities

8.4. Port management in Portugal

8.5. Outlook for the port management in the context of conceptions

9. Port economy: costs and port charges (6:0)

9.1. Economic functions and economic value of a port

9.2. Efficiency and competitiveness: competition and cooperation between ports

9.3. Port fees and Costs; port development and its financing

10. Indicators in the maritime transport and port activity (8:0)

10.1. Indicators in maritime transport: characteristics and objectives

10.2. Information about maritime indicators at international level and in Portugal

10.3. Indicators in ports: characteristics and objectives

10.4. Information about port indicators at international level and in Portugal

Recommended reading:

Will be provided presentations and documentation used in class.

Bibliography:

- Branch, Alan E. (1998), *Maritime Economics: Management and Marketing*, Stanley Thornes (Publishers) Ltd, London
- Comissão Estratégica dos Oceanos (2004), *O Oceano Um Desígnio Nacional para o Século XXI*, Presidência do Conselho de Ministros, Lisbon
- Gabinete SEAMEPAT (1997), *Política Maritimo-Portuária Rumo ao Século XXI: Livro Branco*, MEPAT, Lisbon
- MOPTC – SET (2006), *Orientações Estratégicas para o Sector Maritimo-Portuário*, MOPTC, Lisbon (www.moptc,pt)
- Stopford, Martin (1997), *Maritime Economics*, Routledge, London
- Nettle, Stanley (1988), *Port Operations and Shipping*, Lloyd's of London Pres, London

Teaching methods:

Sessions will integrate theoretical issues and the presentation of application work related to the day to day management.

Will be stimulated the study of applications the business environment in the maritime sector, with a view to drawing up works that will be presented and discussed in classroom sessions.

Tutoring sessions will be scheduled to monitor the study and preparation of working groups.

Assessment methods:

Continuous assessment:

- Working Group (30%);
- Written test (without consultation) (40%).

C. Costa

· Written test (with consultation) (20%) · Active participation in class: 10. Approval, provided with a final continuous assessment equal to or higher than 10 or Approval in a final examination, provided that obtain a score equal to or higher than 10	
Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Fleet Management		
Field:	Economics & Management		
Course code:	3178	**Type of course:**	Optional
From:	2011/12		
Year of study:	3rd	**Semester:**	1st
ECTS:	4,5	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:			
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Students will develop skills: in analyzing the design of road fleet suited to the demand; in the process of selection and types of purchase of vehicles; in the determination of funding; in need of planning and implementation of fleet maintenance; use of indicators that contribute to improving efficiency and reducing costs in transportation; in the decision of outsourcing fleet management; in the evaluation of partner in the MSC (Collaborative Transportation Management), according to pre-defined goals.

Course contents:

1. Introduction to fleet management / transport
   - 1.1. Fundamental concepts
   - 1.2. The fleet management
   - 1.3. Roles, responsibilities and objectives of the Fleet Management
   - 1.4. Classification of transport
   - 1.5. Types of supply transport
2. Offer in search of fitness. Design of fleet
   - 2.1. Overview of the process of scaling
   - 2.2. Fleet sizing (new)
   - 2.3. Measurement of fleet sizing (existing)
3. Selection of equipment
   - 3.1. Assessment of needs from the provision of services
   - 3.2. Phases of a vehicle acquisition process
   - 3.3. Model selection more suitable for a certain mileage
   - 3.4. Outsourcing
4. Selection of equipment (Fleets)
   - 4.1. Phases of a vehicle acquisition process
   - 4.2. Model selection more suitable for a certain mileage
5. Funding
   - 5.1. Cost structure inherent fleet
   - 5.2. Need for funding
   - 5.3. Methods of calculation of depreciation
   - 5.4. Affectation of general costs
   - 5.5. Opportunity cost
   - 5.6. Costing (example)
   - 5.7. Distance ratio

5.8. Calculation of rates

6. Maintenance
   - 6.1. Fundamentals
   - 6.2. Objectives of maintenance
   - 6.3. Types of maintenance
   - 6.4. Curative and preventive maintenance. Breakeven point
   - 6.5. Levels of intervention
   - 6.6. Opportunity to repair
   - 6.7. Own workshops versus outdoor workshops
   - 6.8. Required Periodic Inspections (IPO)
7. Improving efficiency. Reduce costs in transport
   - 7.1. Technical information. Indicators
   - 7.2. Some concepts
   - 7.3. Some corrective measures
8. Transportation collaborative (CTM)
   - 8.1. Objectives
   - 8.2. Benefits of stakeholders
   - 8.3. Levels of management

Recommended reading:

1. INE
2. Dolce, John, *Fleet Management*, McGraw-Hill Book Company, 1984
3. Santos, António, Gestão de Frotas – O Outsourcing como Alternativa Estratégica, Texto Editora, 1999.
4. Wood Ward, Frank H., Managing the Transport Services Function, Gower Press, 1977.
5. Cooke, Peter N. C., Financial Analysis of Motor Transport Operations, Gower Press Limited, 1974.
6. Cooke, Peter N. C., The Company Car, Its Allocation, Acquisition and Administration, Gower Press Limited, 1975.
7. Santos, José Luís, A Gestão de uma Grande Frota de Transportes Rodoviários, 1993, Tese de Mestrado.
8. Simões, João F. Reis, *Gestão de Frotas*, Mestrado em Transportes, I.S.T., 1989.

Teaching methods:

In class exercises are performed analysis and calculation depicting the subjects taught in order to increase the efficiency of learning and encouraging the active participation of students.

Assessment methods:

2 assessment tests.

Study visit and a witting report focus on the visit.

Language of instruction:	Portuguese

Escola Superior Náutica Infante D. Henrique
Departamento de Transportes e Logística

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Port Management		
Field:	Economics & Management		
Course code:	3217	**Type of course:**	Optional
From:	2011/12		
Year of study:	3rd	**Semester:**	1st
ECTS:	4,5	**Hours/ Type (T/P/TP):**	4h / T
Name of lecturer:	André Cristovão Henriques		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Possibility to students to get a good understanding on main elements of Portuguese Maritime Administration, its past organization, present situation and main trends in order to allow a deep analysis about the concept and extension of State action and future policy settings.

Course contents:

1. Maritime Administration Concepts and concerns
2. International organizations and Maritime Activity
3. Maritime Activity Organizational and functional Models
4. Maritime Activity Organizational trends
5. Maritime Policies in Portugal

Recommended reading:

- Sectorial Legislation
- OESMP-Orientações Estratégicas para o Sector Marítimo Portuário
- EMSA
- UN Conventions on Maritime Law and Conference Conduct Code
- Maritime national strategy
- Maritime Hypercluster
- Several IMO technical documents
- Several EU technical documents

Teaching methods:

Presential and participative theoretical and practice teaching

Continuous quantitative evaluation

Assessment methods:

Continuous valuating including:

2 written examination worthing 90%

Participation, class work and exercises worthing 10%

Language of instruction:	Portuguese and English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Technical Ship Management		
Field:	Economics & Management		
Course code:	3180	**Type of course:**	Optional
From:	2011/12		
Year of study:	3rd	**Semester:**	1st
ECTS:	4,5	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Orlando Mota Duarte		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

To deepen students' knowledge on :

- Shipping, Seaborne trade Markets and external influences
- Shipping Companies : Main Organization charts
- Ships: Main Characteristics. Standard descriptions
- S&P - Sale and Purchase of vessels
- Fleet technical and economical management

Course contents:

6. The Shipping Industry
   - 6.1. The Market: the significance of cycles
   - 6.2. Regular ship owners, asset players/speculators and others
   - 6.3. Investment. Divestment
7. The Shipping Company : Organizational Solutions
   - 7.1. The traditional organizational structure: Head Office and on board vessels
   - 7.2. Outsourcing: different levels
   - 7.3. Focus on Technical Department. versus Ship management and Manning outsourcing's strategies
8. The Ship: Main Characteristics. Principal drawings
   - 8.1. Nautical terminology- Brief synthesis
   - 8.2. Ship types according to their employment. Standard description
   - 8.3. Technical systems and sub-systems that comprise a ship
   - 8.4. Machinery: Main Engine. Electric generating plant. Other systems and outfits
   - 8.5. Bunkers (Marine fuels). Indicative prices. Speed / Consumptions
   - 8.6. Structure and ownership of the word fleet. Statistics
   - 8.7. General structure of the ship crew members and particular duties
9. Sale and Purchase of vessels (S & P market)
   - 9.1. Investment: Evaluating techniques
   - 9.2. New Building: Vessel's specifications, construction and supervision
   - 9.3. Purchase of a secondhand vessel: Valuation. Negotiations. Closing
   - 9.4. Divestment: Different processes
10. Fleet technical and economical management
    - 10.1. IMO, ILO, Classification Societies / IACS and Flag State

D. Costa

10.2. International Maritime Conventions. Ship Classification 10.3. Manning, Technical and Insurance Management 10.4. Economic Management: Annual Budget and costs control 10.5. Ship Costs. International standards and trends. Benchmarking
Recommended reading:
· Course notebook- Lecturer · Arquitectura Naval – J. Saraiva Cabral · Arquitectura Naval – O dimensionamento do Navio – Jorge d'Almeida · Sale and Purchase – William Packard · The Shipowner Business – Norwegian Shipping Academy · Ship Costs – Drewry ,1999 · OpCost, Benchmarking vessel running costs- Moore Stephens · Guia dos Números – The Economist
Teaching methods:
Intention to give to the students the necessary knowledge grounds of technical ship management matters, showing real cases, studying consequences and final results. "Power point" resourcing to present organic structures, shipping charts and on board vessel management types. Films, images and slides of ship types, naval construction and shipyards dry docks and repairs works. Lessons will have a theoretical sense in a way of management concepts and practical mode when calculating ship costs, such as capital ones, either dry docks or running costs. Students will have to search by themselves and also to study construction and other plans, vessel rules and regulations and other relevant technical documents. Great importance to study visits to ship and shipping companies
Assessment methods:
Individual or group paper works, assiduity and interest for the Class lessons (20 %) Two written tests (40 % + 40 %) Written test notes less than 7 (0 – 20 scale) will lead students to final examination
Language of instruction: Portuguese and English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Marketing Services		
Field:	Economics & Management		
Course code:	3218	**Type of course:**	Optional
From:	2011/2012		
Year of study:	3rd	**Semester:**	1st
ECTS:	4,5	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Maria Margarida Lança Mata Almeida		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

It is expected that the pupil comprises:

1. Marketing is now critical to the success of any organization, whether small, large or possibly global, being practiced an intense form around the world.
2. The companies need strategies to adapt to changing market.
3. The purpose of the organizations is satisfy the needs, desires, interests of the target market more effectively and efficiently than competitors, always to maintain or increase the welfare of consumers and society in the long run (developed in a context environmental problems, resource scarcity, economic problems and social services careless).
4. Many companies are betting accordingly a total quality management, drawing constantly improve the quality of its products, services and marketing processes

Students will acquire knowledge to enable them to: analyze the market, identify business opportunities, identify needs, plan and implement marketing strategies, in accordance with the Corporate Strategy, based on the principles of integrity, collective consciousness and well-being of long-term customers.

Course contents:

1. Introduction
   - 1.1. Globalization of markets
   - 1.2. Awareness of business services
2. Marketing
   - 2.1. What is Marketing
   - 2.2. Evolution of the concept of marketing
   - 2.3. Functions of marketing
   - 2.4. The various marketing
3. Marketing
   - 3.1. Market study
   - 3.2. Constituting a public market
4. The consumer behaviour
   - 4.1. Wishes
   - 4.2. Attitudes
5. Methods of marketing division
   - 5.1. Segmentation and typology
   - 5.2. Advantages of targeting
   - 5.3. Purpose of segmentation
   - 5.4. Main criteria for targeting

5.5. Basic steps

5.6. Attributes of criteria

6. Marketing-Mix of products

6.1. Definition of product

6.2. Product mix

Intrinsic feature of product; design; brand; packing; associated services; range policy; product life cycle; definition of price; policy; factors; establishment of the price; strategy of the price; price line products; product price of luxury; new product price; distribution channels and circuits; distribution policy; functions of distribution channels; types of distribution channels;

6.3. Communication

Communication process; elements of communication; mix of communication: advertising; promotions; sales force; public relations

7. Marketing services

7.1. Factors affecting the services

7.2. Key issues in corporate management services

7.3. Marketing mix 8 p's services

Product; process; time and place; productivity and quality; people; communication and education; physical evidence; price and other cost of services: cost of purchase (client); the price / the strategy; the process of purchase of services

8. Marketing strategy mix

8.1. Planning

8.2. Implementation

9. Chain of income

9.1. 7 links

Recommended reading:

- "Mercator XXI, 11ª edição", Denis Lindon, Jacques Lendrevie, Julien Lévy, Pedro Dionísio e Joaquim Rodrigues.
- "Administração de Marketing", Philip Kotler

Teaching methods:

Theoretical classes are referenced case studies depicting the subjects taught in order to increase the efficiency of learning and encouraging the active participation of students.
Presentation of Case Studies of Transportation Companies.

Assessment methods:

1 Final Exam

A Working Group

Language of instruction:	Portuguese

Escola Superior Náutica Infante D. Henrique
Departamento de Transportes e Logística

3rd year of studies

2nd semester

Escola Superior Náutica Infante D. Henrique
Departamento de Transportes e Logística

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Transports Ambient Management		
Field:	Transport's Technologies		
Course code:	3182	**Type of course:**	Mandatory
From:	2011/2012		
Year of study:	3rd	**Semester:**	2sd
ECTS:	5,0	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Mário João Melo		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

It is intended that students acquire knowledge in the transport sector and in particular in the areas of energy consumption and environmental impacts

Course contents:

1. Introduction
2. Environmental concepts
3. Climate change
4. Air quality
5. Transportation fuels – system perspective
6. Fuel option and cleaner vehicles
7. Transport energy and emissions: Road, aviation, rail and shipping
8. Sustainable development management

Recommended reading:

- Folhas de Apoio à Disciplina Gestão Ambiental nos Transportes, Mário Melo, ENIDH, 2012,
- Handbook of Transport and Environment. , D. Henscher, K.Button, 2003, Elsevier, 2003

Teaching methods:

Theoretical/practical lessons

Assessment methods:

The rating is determined by the weighted average of a final exam and the completion of a working group report (maximum 4 students) both mandatory. The final exam consists of a written test with consultation (with a minimum grade of 9 values). The test writing has a weight of 70% and the working group report 30%.

Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Project Management and Decision Support Systems		
Field:	Management		
Course code:	3183	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	3rd	**Semester:**	2nd
ECTS:	5,0	**Hours/ Type (T/P/TP):**	3h / TP
Name of lecturer:	Guilherme dos Santos Lobão		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Give students an understanding of fundamental concepts, models, techniques and methodologies inherent in Project Management and Decision Support Systems, through the need for integration of information processes in the organization and the need for data analysis using methods quantitative or qualitative.

Course contents:

1. Introduction
   - 1.1. Project Definition and Project Management
   - 1.2. Phases of a Project
   - 1.3. Main Variables to act in Project Management
2. The Project Manager
   - 2.1. Functions of the Project Manager
   - 2.2. Management of conflicts, Authority and Responsibility
   - 2.3. Choosing a Team Project
3. Organizational Structure and Project Management
   - 3.1. What is the best type of organization
   - 3.2. Functional Organization in support of Project Management
   - 3.3. Organization by Project
   - 3.4. Matrix Organization
4. Design, Process, and Capacity Planning
   - 4.1. Systems Fabril and Services
   - 4.2. Design, Capacity and Capacity Planning
   - 4.3. Strategies for Capacity
5. Implementation of Facilities
   - 5.1. Objectives and principles
   - 5.2. Types of Deployment
   - 5.3. Review Criteria
6. Aggregate Production Scheduling
   - 6.1. The process of production planning
   - 6.2. Strategies for Aggregate Production Planning
   - 6.3. Methods for Planning
   - 6.4. Breakdown
7. Management Planning and Programming Project

7.1. Project Management with / without constraints of time / resources
7.2. Programming Methodologies PERT / CPM
7.3. Crushing Activities
7.4. Limited Resources
7.5. Probabilistic PERT
8. Trends in the evolution of Project Management
9. Information Systems
9.1. Architecture of Information Systems
9.2. Basic Rules and Procedures
9.3. Media Information
10. Strategic Management of Information Systems
10.1.The impact of information systems on competitiveness
10.2.The strategic planning of information systems
10.3.The development of information systems
10.4.The implementation of information systems strategy
10.5.The control in management information systems
11. Tools for Analysis and Design of Information Systems
11.1.The analysis of information flows
11.2.The analysis of the turning points or the information processing
11.3.Organization of information
11.4.The specification of information systems
12. The process of Decision
12.1.Viewpoint descriptive
12.2.Viewpoint regulatory
12.3.Examples of decision support systems

Recommended reading:

- Roldão, Victor Sequeira (2000), Gestão de Projetos, Como gerir em tempo, custo e qualidade, Monitor, Projetos e Edições, Lda.
- Heizer, J., Render, B., (1999), Operations Management, Prentice-Hall, Upper Saddle River, New Jersey.
- Lobão, Guilherme dos Santos (1995), Novas Tecnologias de Gestão, Edições Universidade Aberta, Lisboa (Foram produzidos dois vídeos de apoio Vídeo 1 – A Área Produtiva – Concepção, Problemas e Oportunidades – 1999 e Vídeo 2 – A Produção em Ação – Funcionamento e Gestão de Stocks – 1999).
- Marques, Ana Paula (1992), Gestão da Produção, diagnóstico, planeamento e controlo (2ª Edição), Texto Editora, Lisboa.
- Monks, Joseph G., (1989), Administração da Produção, McGraw-Hill, São Paulo.
- Courtois, A ; Pillet, M., Martin, C.; (1997), Gestão da Produção, LIDEL – Edições Técnicas, Lda, Lisboa.
- Sharma, S., Applied Multivariate Techniques (1996), John Wiley.
- Applegate, Lynda M.; Warren Mcfarlan e james McKenney (1996), Corporate Information Systems Management, Edições Richard D. Irwn.
- Reis, Carlos, (1993), Planeamento Estratégico de Sistemas de Informação, Editorial Presença.
- Reis, António Palma; Estratégias para Sistemas de Informação, Universidade Aberta, 2000.
- Reis, Elizabeth; Estatística Multivariada Aplicada, Edições Sílabo, 2.ª Edição, Lisboa, 2001.
- Jobson, J.D., Applied Multivariate data Analysis (1992), Volume II: Categorical and multivariate methods, Springer – Verlag.

Costa

Teaching methods:
Classes are theoretical and practical. The exhibition will be of fundamental concepts, as appropriate, then the resolution of implementation problems. Problem solving is not, however, the aim of the course. These serve to validate the understanding of the concepts acquired primarily to replicate scenarios and decision-making based on appropriate methodologies, especially in terms of control of activities in Project Management and Decision Support.
Assessment methods:
The evaluation along each semester include: 1 - A written individual (with a call), which represent 50% of final grade; 2 - Resolution of two individual projects delivering formal and will represent 40% of final grade (20% each of the papers); 3 - Participation in class. Represent 10% of final grade. The area covered by individual trial, expected to be completed until a week before the date of its completion. The students in all the different assessment tests obtain an average equal to or greater than 9.5, are exempted from the final exam, if the individual written test score more than 7.5 points. Students who have an average greater than or equal to 16.5 values in all the different assessment tests and who wish to get ranked higher than 16 value, will undergo an oral exam individually. For final exams, the assessment system is the same as defined in General Regulation Assessment.

Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Supply Chain Typologies		
Field:	Logistics & Transports		
Course code:	3184	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	3rd	**Semester:**	2nd
ECTS:	5,5	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Ricardo Jorge Gomes Felix		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

- Skilling students in Supply-Chain Management and with the full understanding of the different typologies of Supply-Chains
- Students must achieve the following skills :
  - At strategic level the full understanding of supply-chains and the knowledge of the associated phenomena to each typology
  - At tactic and operational level, with the knowledge of the tools and technics o supply-chain management
  - To apply teorethical knowledge in practical and real life cases in different supply-chains

Course contents:

1. To introduze the supply-chain as an important economic, social and operational model approach
   - Supply Chain and Logistic Chain. An analisys of sustainability
   - Fundamental drivers of Supply-Chain fluidity
   - The integration of all variables of only one optimizing equation – The real concept of supply-chain management
2. Perspective of the supply-chain evolution – The evolution of business requirements, tools and management technics based in automatic information and communication systems
   - The globalization
   - Postponement and *"push" e "pull"* strategies to support marketing requirements
   - The *lean* logistics, and the lean supply-chain
   - Collaboration as a fundamental strategy and tool form Supply-Chain management
   - The impact of the information and communication technologies in supply-chain management
3. Defining the characteristic problems of supply-chains
4. Extended enterprise concept
   - The laws of economy and the power relationship in the supply-chains
   - Characteristic of network and the impact in the supply-chains
     - Forecast and synchronization
     - The *bull-wheep effect*
5. Technics and management tools in the supply-chain management
   - Designing and auditing the supply-chain
   - The SCOR Model
   - Measuring performance
   - Planning and forecasting of the supply-chain. The collaborative planning

- Risc Management .Postponement as an example
- The supply-chain event management
- Information tools and systems for supply-chain management
  - The systems APS (Advanced Planning & Scheduling)
  - Identifying, standardize and imaging documents
- Studying the different typologies of supply-chains
- Distribution models of actual supply chains and expected future evolution
- The supply chain models of coordination in auto and aeronautics industries
- The integrated models in agro food industries
- The coordination models by project – The supply-chains of a one project
- Advanced Models of Supply-Chains – Choice boards – ex Dell e Nike

6. Case-Study Analysis

Recommended reading:

- "Supply-Chain Management", Bowersox, Closs e Cooper, Mcgraw-Hill, 2002, ISBN-0-07-235100-4
- "Logistics and Supply-Chain Management", Martin Christopher, Pearson Education Limited, 1ªed 1992, 2ªed 1998; 3ª ed2005
- "Food Supply Chain Management" , Bourkalis, Michael Blackwell Pusblishing, ISBN:978-140510168-4
- Supply-Chain Excelence, P. Bolstorff e R. Rosenbaum, AMACOM, 2003, ISBN:0-8144-0730-7
- "e-Logistics e e-Business", J.C.Carvalho e Eurico B. Dias, Edições Sílabo, 2000, ISBN:972-618-238-7
- "Logística Global e Macrologística", J.C.Quaresma Dias, Edições Sílabo,2005, ISBN:972-618-369-3
- "Logística e Gerenciamento da Cadeia de Distribuição", António Galvão Novaes, Editora Campus,2001 ISBN: 85-352-0819-4
- Council of Supply-Chain Management Professionals http://cscmp.org
- Supply-Chain Council www.supply-chain.org
- Links e Videos visionados ou recomendados para as aulas e trabalhos

Teaching methods:

Lessons in classroom, and visits and lessons from practitioners in real life operations. Analysis of Case-Studies

Assessment methods:

2 tests and a workgroup

Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Transport & Physical Distribution		
Field:	Logistics & Transports		
Course code:	3185	**Type of course:**	Mandatory
From:	2011/12		
Year of study:	3rd	**Semester:**	2nd
ECTS:	5,5	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Maria Elisa Cunha		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Students will develop skills: in the integrated transport management strategies marketing and logistics; in physical distribution management in distribution channels (cost/benefit); in the analysis of demand and capacity to offer road transport; in identifying needs and characteristics of the fleet; in the decision of outsourcing fleet management; in analyzing their own mechanical workshops/mechanical workshops outside the area of maintenance; in the awareness of road safety as a result of vehicle dynamic behavior (correct packaging of loads and the need for training in defensive driving and driving economic); in the analysis of road fleet productivity and consequent remedial measures; the analysis and budgetary control; knowledge of the legal sector; in freight transportation (packaging, bundling, service levels); in the analysis of traffic routes and its programming.

Course contents:

9. Globalization and logistics
10. The transport and logistics purpose
    - 10.1. The integrated transport management strategies marketing and logistics
    - 10.2. Climate change and transport (AEA)
    - 10.3. Classification and characteristics of transport
    - 10.4. Types of supply transport (Marco Polo Program)
11. Physical Distribution
    - 11.1. Framework in SCM
    - 11.2. Physical distribution and distribution channels
    - 11.3. Definition and general purpose
    - 11.4. Types of market
    - 11.5. Levels of Management
    - 11.6. Primary activities: Transportation, warehousing and inventory
    - 11.7. Definition of compensation costs (economic conflict)
    - 11.8. Concept of total cost
12. Management of road transport
    - 12.1. Roles, responsibilities and objectives
    - 12.2. Public Transport vs. Private Transport
    - 12.3. Analysis of demand for transport
    - 12.4. Analysis of the ability to offer transportation
    - 12.5. Adjustment of fleet sizing looking
    - 12.6. Identifying needs and specifications of the fleet
    - 12.7. Outsourcing as a strategic alternative

13. Maintenance - Workshops own workshops versus external
    13.1. Advantages and disadvantages
    13.2. Cost / Benefit
14. Road safety
    14.1. Basics concepts
    14.2. Dynamic performance of vehicles
    14.3. Packing of cargo
    14.4. Defensive driving training and economic driving
15. Road transport function
    15.1. Constituent elements
    15.2. The Cost Accounting and Cost Centers
    15.3. Budgetary Control
    15.4. Productivity control of the activity (fees and costs as indicators of efficiency)
    15.5. Corrective Measures
    15.6. Legal Framework of the Sector:
        15.6.1. Main sector regulation
        15.6.2. Access requirements to the activity of Public Carrier
        15.6.3. Dimensions and maximum weights of vehicles
        15.6.4. Documentation required
    15.7. Contract of Carriage
16. Carriage of Cargoes
    16.1. Nature of cargo transported
    16.2. Preparation of cargo to be transported (Level Aggregation / consolidation)
    16.3. Road Traffic Safety of Dangerous Goods
    16.4. Charge Complete and Fractional Charge
    16.5. Service Levels
17. Routing and scheduling

Recommended reading:

1. IMTT
2. Ballou, Ronald H. Logística empresarial: transportes, administração de materiais, distribuição física. São Paulo: Atlas, 2007.
3. Novaes, António Galvão. Logística e controlo da cadeia de distribuição: estratégia, operação e avaliação. 3. Ed. Rio de Janeiro: Elsevier, 2007.
4. Fleury, Paulo Fernando; Wanke, Peter; Figueiredo, Kleber Fossati. Logística empresarial: a perspetiva brasileira. São Paulo: Atlas, 2008.
5. Vargas, Robson. Análise dos custos de transporte de produtos da distribuidora Polina e Cia,Lda. para atender os clientes da cidade de Guaíra. 58 f. Monografia (Curso de Administração com Habilitação em Logística e Transportes) - Faculdade Assis Gurgacz. Cascavel, 2005.
6. Santos, António, Gestão de Frotas – O Outsourcing como Alternativa Estratégica, Texto Editora, 1999.
7. Wood Ward, Frank H., Managing the Transport Services Function, Gower Press, 1977.
8. Cooke, Peter N. C., Financial Analysis of Motor Transport Operations, Gower Press Limited, 1974.
9. Cooke, Peter N. C., The Company Car, Its Allocation, Acquisition and Administration, Gower Press Limited, 1975.
10. Santos, José Luís, A Gestão de uma Grande Frota de Transportes Rodoviários, 1993, Tese de Mestrado.

Teaching methods:	
In class exercises are performed analysis and calculation depicting the subjects taught in order to increase the efficiency of learning and encouraging the active participation of students.	
Assessment methods:	
2 assessment tests. Study visit and a witting report focus on the visit.	
Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course unit title:	Intermodal Transports		
Field:	Logistics & Transports		
Course code:	3186	**Type of course unit:**	Mandatory
From:	2011/2012		
Year of study:	3rd	**Semester:**	2nd
ECTS:	5,5	**Hours/week:**	4h / TP
Name of lecturer:	Orlando Mota Duarte		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

To analyze economical, social and environmental advantages and disadvantages in the different unimodal modes of transport.

To study the intermodal freight transport in all aspects on a world-wide, European and national perspective.

Basis intermodal transport study, to deepen the analysis in order to find future solutions and aids to the intermodalities to Portugal and all European Union space.

Study of practical cases.

Course contents:

1. Concept of Transportation and Intermodality
   - 1.1. Transport Market
   - 1.2. Concept of transport system
   - 1.3. Intermodality
   - 1.4. Transports : E.U. Common Policy
2. Unimodal Transport
   - 2.1. Character Characteristics: Economic, social and environmental factors. Administrative procedures
   - 2.2. Road
   - 2.3. Rail
   - 2.4. Sea (WWT and SSS)
   - 2.5. Fluvial
   - 2.6. Air
   - 2.7. Pipeline
3. Inter modal Transport. Transportation chains generic
   - 3.1. Intermodal transport equipment. ULD and others
   - 3.2. Intermodalities
   - 3.3. Multimodal Transport Operators (MTO)
   - 3.4. Multimodal Logistics Organization. Dry ports, ZAL, Nodes
   - 3.5. E.U Incentive Programs: Marco Polo I /II, ERTM, New Opera, SESAR (White Paper)
   - 3.6. Intermodalities: road-sea, road-rail, road-air, road-rail-sea
   - 3.7. Why Intermodal?
4. Transport networks in Portugal and connections to northern Europe and the Mediterranean
   - 4.1. Transport by road. National Network
   - 4.2. Transport by rail. High speed trains / TGV

4.3. Transport by sea. Ports. Motorways of the sea

4.4. Air Transport. Air cargo centres

4.5. Pipeline Transport. Oil and natural gas

4.6. Integrated transport. Intermodalities. Logistics platforms

Recommended reading:

- Course unit lecturer's written notebook and web site (digital matters) – 2011 ed.
- E.U Transportations White Paper - 2001
- Inventory of Transhipment Technologies in Intermodal Transport, Johan Woxenius, 1997
- Intermodal Freight Transport, David Lowe, 2005
- Logística, José M. Crespo
- Various logistic magazines : Cargo, Logística Moderna, Cargo Systems e Containersation International

Teaching methods:

"Power point" resourcing to present equipment images and intermodal solutions.

Analysis of professional Internet sites contents and its potential application to Portugal, in order to induce debates among the students, testing their knowledge and understanding of the given matters.

Use of real cases, such as the Portuguese program "Portugal Logístico" which will be analyzed by the students, either individually or in group.

Students will have to search by themselves and to study also in detail transport modes and the latent co-modality that exists in the transport chains, as well as the E.U. documents that rule and support the European intermodal transport.

Assessment methods:

Individual or group paper work, assiduity and interest for the Class lessons (20%)

Two written tests (40% + 40%)

Written test notes less than 7 (0-20 scale) will be lead students to final examination.

Language of instruction:	Portuguese / English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Commercial Management of Road Transport		
Field:	Economics & Management		
Course code:	3187	**Type of course:**	Optional
From:	2011/12		
Year of study:	3rd	**Semester:**	2nd
ECTS:	4,5	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:			
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

Students will develop skills: in understanding the importance of operational and strategic business function; in understanding the importance, and to be able to apply concepts and techniques in business management Provision of Transportation Services; in developing proposals, Schedules, Scheduling Visits, Reports, Statistics Sellers, Statistics of the effectiveness of business and others.

Course contents:

1. O marketing and business actions
   - 1.1. The mission
   - 1.2. Objectives
   - 1.3. Strategy
2. Ways to market
   - 2.1. Enterprises behavior
   - 2.2. Pure competition
   - 2.3. Monopolistic competition
   - 2.4. Competitive variables
   - 2.5. Dimensions of quality in transport
3. Management of sales force
   - 3.1. Formulation of the sales program
     - 3.1.1. Role of the sales force
     - 3.1.2. Size of sales force
     - 3.1.3. Allocation of sales force: geographical areas, type of customer, type of product, type of functions
     - 3.1.4. Customer Management: number of visits, time per visit, to address people, materials to submit, room for maneuver in negotiations, etc.
     - 3.1.5. Economic Evaluation: costs vs. sales force. results to be obtained
   - 3.2. Implementation
     - 3.2.1. Recruitment and selection of vendors
     - 3.2.2. Training of vendors
     - 3.2.3. Compensation and Evaluation
     - 3.2.4. Organization and control of sales force

Recommended reading:

Administração de Marketing - Philip Kotler

Mercator XXI 11ª edição - Denis Lindon, Jacques Lendrevie, Julien Lévy, Pedro Dionísio e Joaquim

Rodrigues.	
Teaching methods:	
In the classes are referenced case studies depicting the subjects taught in order to increase the efficiency of learning and encouraging the active students' participation.	
Assessment methods:	
2 assessment tests.	
Language of instruction:	Portuguese

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Port and Maritime Commercial Management		
Field:	Economics and Management		
Course code:	3188	**Type of course:**	Optional
From:	2011/2012		
Year of study:	3rd	**Semester:**	2sd
ECTS:	4,5	**Hours/ Type (T/P/TP):**	4h / TP
Name of lecturer:	Orlando Mota Duarte		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

To characterize the activity of maritime transports, the organization and administration of shipping companies.

To study:

- The seaborne trade and shipping demand, identifying the flow of the main merchandises at the different markets on a world-wide level and analyzing its actual evolution.
- The composition of the world fleet, main ports and operators,
- The actual situation in Portugal, external commerce, ports, shipowners and fleets.

To develop the concept of planning and execution of the commercial operations through the detailed analysis of budgets, costs and revenues, profit and losses on Liner, Tramping and Bulk business

It is intended that the students dominate the main contracts of transport, Voyage Charter, Time - Charter and Liner Terms (BL' s) , as well as the shipping terms and abbreviations, through practical and real examples of the daily indices and freight rates in the market.

Course contents:

1. The commercial functions in a shipping company
   - 1.1. A Shipping Company: Organization Chart
   - 1.2. The role of the Commercial Department(s)
   - 1.3. Different commercial activities: The Lines, Tank, Bulk and Specialized departments
2. Others activities with a close relationship to the commercial operations
   - 2.1. Finance department
   - 2.2. Vessel's financing
   - 2.3. Capital costs of the vessel
   - 2.4. Technical Department
   - 2.5. Daily Costs. Running costs
   - 2.6. Vessel Register. Flagging in / out. Kind of Crews
   - 2.7. Internal "hire" of the vessel. Chartering in/out. Benchmarking
   - 2.8. National and International Maritime Authorities. Rules and regulations
3. The World Trade
   - 3.1. Main commodities' flows
   - 3.2. Bulk cargoes. The main routes
   - 3.3. Containerized cargo. Major ports and operators
   - 3.4. World fleet, by type of vessels and ownership
   - 3.5. Annual World Shipping

3.6. National foreign trade by sea. Major ports

3.7. Portugal: Ships and Ship owners

4. The Market. Indexes. Indicative prices. Futures / FFA. Other tools

4.1. Analysis of market indexes for various types of vessel, cargo and routes

4.2. The Baltic Exchange: BFI, BIFFEX. Trends

4.3. Shipbuilding and Transport Market Annual Review

4.4. Bunkers: Types. Supply ports. Prices. Contracts and spot market

5. Bulk and Specialized Trade

5.1. Market organization

5.2. Cargoes .Brokers. Orders, Offers. COA. *Chartering language*

5.3. Contractual forms :T/C, V/C, BB/C. Negotiations and responsibilities

5.4. Voyage estimation: freight rates. Breakeven and TCE concepts

5.5. Voyage follow-up: Master instructions, route, NOR, Statement of Facts, Loading/discharging, demurrage, dispatch, time sheet

6. Liner Trade

6.1. Cost structure and exploitation analysis of a navigation line

6.2. Fixed and variable operating costs

6.3. Liner Terms concept

6.4. Cargo unitization. Containerization

6.5. Container fleet management. Rent, leasing or purchase?

6.6. Container rotation cycle

6.7. Allocating container costs to the voyage

6.8. Profit & Loss Account. Cash Budget

6.9. Breakeven concept. Contributions

7. Cooperation in Maritime Transport

7.1. Reasons and ways of cooperation

7.2. Cooperation and competition. Legal framework

7.3. E.U. rules

7.4. Corporate organizations

Recommended reading:

Course unit lecturer's written notebook and web site (digital matters) – 2011 ed.

Several Magazines :Containerisation International, Lloyd's List, Fairplay, Cargo, Bulk Handling, etc

Web sites:

IMO, UNCTAD, IACS

ISL – Institute of Shipping Economics and Logistics

BRS – Barry Rogliano Salles

The Baltic Exchange

SSY- Simpson,Spence & Young, Howe Robinson, etc..

Technical books:

- Sea Transport – P.M.Alderton-Thomas Reed Publ.-London
- Downwards J.M., Running Costs, Fairplay Publ. , London;
- ISL- Market Review 2010
- Benchmarking vessel running costs, OpCost 2010 – Moore Stephens
- Structure and Ownership of the Word Fleet – UNCTAD/Lloyds Register

· Contratos de Utilização do Navio – J.V. Esteves - Livraria Petrony, Lisboa · Armadores e Navios,2011 – IPTM · Transportes Marítimos e Portos- João Bebiano-Fund. Luso-Americana,2005 · Guia do Exportador e Importador- J.Almeida Costa- BPA · Guia dos Números – The Economist ,Caminho Ed.
Teaching methods:
To give to the students the necessary knowledge grounds of the commercial and operational management of the ships, needed to understand this activity Lessons will have a theoretical sense in a way of concepts and terminology used in this commercial and operational activity, and one practical mode, when is preceded to the determination of revenues and costs in an operation of regular line or bulk voyages. "Power point" resourcing to present basic practical exercises and real cases, which will be analyzed by the students and discussed in Class. Students will have to search by themselves and to study also in detail Shipping Annual Market Reviews and the brokers comments Students will have to search by themselves and to study also in detail Shipping Annual Reviews and brokers comments. Ship costs, finance and running costs will be useful, if studied in course unit "Technical Ship Management" (teaching in 1st semester).
Assessment methods:
Individual or group paper work, assiduity and interest for the Class lessons (20%) Two written tests (40% + 40%) Written test notes less than 7 (0-20 scale) will be lead students to final examination.
Language of instruction: Portuguese / English

Bachelor in Transport Management and Logistics

Description of individual course unit

Course title:	Port Information Systems		
Field:	Economics & Management		
Course code:	3189	**Type of course:**	Optional
From:	2011/2012		
Year of study:	3rd	**Semester:**	2nd
ECTS:	4,5	**Hours/week:**	4h / TP
Name of lecturer:	Fernanda Macedo		
Prerequisites:			

Objective of the course (expected learning outcomes and competences to be acquired):

This discipline fit into Harbor Management and Logistic and transport Management degree course. The main goal is to furnish the knowledge foundations and the technical skills that will allow the student in his future professional life, to collaborate and communicate with IS And IT professionals. Those skills are the basis to an assertive communication and business and IT alignment.

The expected learning outcomes and competences other skills to be acquired are:

1. Capacity to evaluate solutions to business problems based on IT other IS;
2. Know how to identify the main components on a Port Community System other a "Single Window"; requirements and functions implemented; compliance with a specific business requirement as the UE – directives or other legislation;
3. Knowledge on the best practices available on those area (e.g. XML; EDIFACT; Web Services, etc.) and its possibilities of use on logistic, transport and harbor management activities;
4. Knowledge on the state-of-the-art on IT and IS projects on logistic, maritime and ports Field and the trend and future recommendations to it.

Course contents:

1. Harbour and ports information system introduction
   - 1.1. Fundamental definition and concepts
   - 1.2. Harbour management models and the IS management
   - 1.3. Applying Advanced Information Systems to Ports and Waterways Management
2. IS project implementation
   - 2.1. IS components
   - 2.2. Definition
   - 2.3. Prototype development
   - 2.4. Development (tests, training and revision)
   - 2.5. Start Up
   - 2.6. Investment s and costs management
3. Information data Model
   - 3.1. The importance of Data dictionary
   - 3.2. What is Metadata
   - 3.3. Requirements management
   - 3.4. UML other Unified Modeling Language
   - 3.5. Data Base and his main objects
   - 3.6. Data model main steps
4. Information security

4.1. Security and its policies
4.2. Business Continuity Planning
4.3. Authentication and authorization management
4.4. Security audit
4.5. Social engineering
4.6. Security policies and different tools implementation (Firewall; Antivirus; Anti-spam; e.g.);

5. Social and network enterprise
5.1. Integration architecture and definitions associated
5.2. IS architecture and it management
5.3. Integration architecture evolution and importance
5.4. Internet and Intranet
5.5. Portals
5.6. Social networks

6. Electronic Commerce – B2B e B2C
6.1. Introduction and evolution
6.2. Related definitions and concepts with Business Relationship Management (BRM) as the MarketPlace, ECR, Customer Relationship Management (CRM), B2B, B2C , Portal, etc.
6.3. EDIFACT (United Nations/Electronic Data Interchange For Administration, Commerce and Transport)
6.4. XML other Extensible Markup Language
6.5. EDIFACT and XML guide implementation at Portugal and UE
6.6. IFCSUM the EDIFACT manifest (transport agreement compilation)as maritime guide implementation at Portugal
6.7. Service-oriented architecture (SOA) and Web Services (XML)

7. IS on Ports and transportation – State of the art
7.1. A brief historic overview at Portugal, EU and other countries
7.2. Transports and ports IS architecture (IT portfolio)
7.3. Components of an Transport Management System
7.4. GPS (Global Position System) e AIS (Automatic Identification System) on transport and goods tracking and tracing;
7.5. The evolution from PCS (Ports Community System) to the Single Window;
7.6. State-of-the-art on Portugal and other countries
7.7. Trend and future developments policies to maritime and ports IT and IS
7.8. The European Maritime Safety Agency (EMSA) – main functions, duties and projects (IS and IT projects)
7.9. Maritime and air transport process and IS Benchmarking
7.10. Other actual projects on these fields.

Recommended reading:

Main bibliography.

· Documentation used on the class distributed by the teacher
· Management Information Systems, 8th/9th/10th Edition – Kenneth C. & , Jane P. Laudon, Prentice-Hall

Other bibliography.

· Information Management– Carlos Zorrinho (editorial Presença)
· Information Society Glossary – APDSI (2005)
· The Competitive Advantage of Corporate Philantropy – Michael E.Porter and Mark R. Kramer (HBR

J. Costa

2002)

- The Myth of Secure Computing – Robert D.Austin and Christopher A.R.Darby (HBR – 2003)
- IT Doesn't Matter – Nicholas G.Carr (HBR – 2003)
- Strategy and the Internet - Michael E.Porter (HBR – 2001)
- *Web Services as a Solution for Maritime Port Information Interoperability* - Pedro Isaías e Fernanda M. D. Macedo (HCII2007)
- Business Re-Engineering and Information Systems Planning: What Has Changed – John Ward.
- The Strategic Transformation Challenge – N. Venkatraman.
- In all the class there will be distributed Internet URL, EU studies and directives, other standards and legislation related with the subjects in agenda
- Other articles available on *Web of Science*

Teaching methods:

The development of the discipline skills, such as critical sense or problem solving and the support of the vocational competencies, such as communication or team skills, will be present and a goal to be achieved.

The lessons plan is supported by a practical component (40%) and a theoretical component (60%).

Lessons plan will be carried out in several ways: Questioning, explaining, modeling, collaborating, and demonstrating.

Collaboration (team work) allows students to actively participate in the learning process by talking with each other and listening to different points of view. The team work project is an example of this teaching method.

Case studies will be used as a process of teaching, discussing examples from the industry or practical experiments, to promote the discussion between the students;

Assessment methods:

Two written and individual tests – 50% (25 % each test that can be replace by a final exam see conditions).

Article development and respective presentation in the class (team work within groups with max. of 3 students) – 15%. The teacher will give completion dates for the articles presentations according to the program and the articles relevance;

The deadline to deliver the presentations has to be respected otherwise there is a penalization of 5% (the value of the article will then be 10%);

Teamwork is the action performed by a team towards a common goal. Students will have to do a work in group choosing the subject from a group of subjects proposed by the teacher (25%). The final report must be delivered in due time before the announced deadline.

Class participation – 10%

Attention: To be accepted to the exam, the student must do (mandatory) the team work and the article.

Language of instruction:	Portuguese / English