



Study Plan

School: School of Social Sciences
Degree: Bachelor
Course: Information and Documentation Science (cód. 148)

1st Year - 1st Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS0810	Contemporary History I	History	5	Semester	130
HIS0459	Introduction to Librarianship and Archives	Information Sciences	5	Semester	130
GES0106	Introduction to Management and Entrepreneurship	Management	5	Semester	130
INF0871	Introduction to Information Technologies	Informatics	3	Semester	82
HIS0460	Information Literacy	Information Sciences	5	Semester	130
INF0892	Topics in Databases I	Informatics	3	Semester	78

Mandatory alternatives

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
LLT1233	Technical English	Linguistics	4	Semester	104
LLT1768	Latin I	Linguistics	4	Semester	

1st Year - 2nd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS0456	History of Information	Information Sciences	5	Semester	130
INF0110	Introduction to Numerical Tools	Informatics	3	Semester	81
PSI1403	Relation and Communication	Psychology	6	Semester	156
SOC0172	Sociology of Communication and Media	Sociology	5	Semester	135
INF0893	Topics in Databases II	Informatics	3	Semester	78

Group of Options

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS0854	Medieval Paleography and Diplomatics	History	5	Semester	130
GES0002	Public Administration and Administrative Processes	Sociology	5	Semester	135
HIS0823	History of Contemporary Portugal I	History	5	Semester	130

Mandatory alternatives

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
LLT1234	Technical English	Linguistics	4	Semester	104
LLT1769	Latin II	Linguistics	4	Semester	

2nd Year - 3rd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
MAT0074	Statistics Applied to Human and Social Sciences	Mathematics	6	Semester	156
GES0088	Information Management for Decision Support	Management	5	Semester	130
INF0889	Information Typologies and Supports	Informatics	5	Semester	135



2nd Year - 3rd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Group of Options					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS0461	Organization and Representation of Information I	Information Sciences	5	Semester	135
HIS0452	Archive Management	Information Sciences	5	Semester	135
HIS0855	Modern Paleography and Diplomatics	History	5	Semester	135
HIS0451	Information Sources and Reference Services	Information Sciences	5	Semester	135
INF0880	Programming I	Informatics	6	Semester	162
HIS0824	History of Contemporary Portugal II	History	5	Semester	130
LLT1226	Text Criticism	Linguistics	5	Semester	135

2nd Year - 4th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
GES0118	Marketing I	Management	6	Semester	161
INF0885	Documental Management Systems	Informatics	5	Semester	135
SOC0210	Data Processing and Qualitative Analysis	Sociology	5	Semester	135
Group of Options					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS0449	Current and intermediate archives	Information Sciences	5	Semester	135
HIS0454	History of the document production management I	Information Sciences	5	Semester	130
HIS0462	Organization and Representation of Information II	Information Sciences	5	Semester	135
GES0131	Participation, Negotiation and Conflict Management	Management	5	Semester	135
INF0881	Programming II	Informatics	6	Semester	162
FIL0654	Philosophy of Language	Philosophy	5	Semester	130
HIS0812	Contemporary History II	History	5	Semester	130

3rd Year - 5th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
INF0876	Production of Multimedia Content	Informatics	6	Semester	158
GES0090	Project Management	Undefined	6	Semester	162



3rd Year - 5th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Group of Options					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS0457	Archives Indexation	Information Sciences	5	Semester	135
HIS0455	History of the document production management II	Information Sciences	5	Semester	130
HIS0453	Management of Collections	Information Sciences	5	Semester	135
HIS0458	Library Indexation	Information Sciences	5	Semester	135
HIS0450	Archival Description	Information Sciences	5	Semester	135
LLT1225	Contemporary Literary Trends	Linguistics	5	Semester	132
GES0119	Marketing II	Management	6	Semester	158
GES0791	Management and Investment Analysis	Undefined	6	Semester	161
HIS1035	Theory and Methods of Heritage Research and Survey	Cultural Heritage	5	Semester	130
INF0868	Algorithms and Data Structures I	Informatics	6	Semester	162
INF0864	Databases	Informatics	6	Semester	157
INF0872	Programming Languages	Informatics	6	Semester	160

3rd Year - 6th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
GES0027	Organizational Behaviour and Human Resources Management	Management	6	Semester	157
ECN0448	Information Law and Ethics	Information Sciences	5	Semester	135
INF0874	Methods and Development of Software	Informatics	6	Semester	160
Group of Options					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
GES0011	Management of Information Systems	Management	5	Semester	136
HIS0804	Cultural Animation in Libraries	History	5	Semester	135
INF0866	Computer Graphics	Informatics	6	Semester	160
INF0869	Algorithms and Data Structures II	Informatics	6	Semester	157
HIS0860	History of the Book and Reading	History	5	Semester	130
HIS0129	Museology	History	5	Semester	130
INF0884	Computer Networks	Informatics	6	Semester	160



Conditions for obtaining the Degree:

*** TRANSLATE ME: Ciências da Informação e Documentação

Para obtenção do grau de licenciado em Ciências da Informação e Documentação é necessário obter aprovação a 117 ECTS em unidades curriculares obrigatórias e 63 ECTS em unidades curriculares optativas, distribuídas da seguinte forma:

1º Ano

1º Semestre:

6 UC Obrigatórias num total de 30 ECTS

1 UC Obrigatória Alternativa num total de 4 CTS

2º Semestre

5 UC Obrigatórias num total de 22 ECTS

1 UC Obrigatória Alternativa num total de 4 CTS

1 UC Optativa num total de 4 ECTS

2º Ano

3º Semestre

3 UC Obrigatórias num total de 16 ECTS

3 UC Optativa num total de 14 ECTS

4º Semestre

3 UC Obrigatórias num total de 16 ECTS

3 UC Optativa num total de 14 ECTS

3º Ano

5º Semestre

2 UC Obrigatórias num total de 12 ECTS

4 UC Optativa num total de 18 ECTS

6º Semestre

3 UC Obrigatórias num total de 17 ECTS

3 UC Optativa num total de 13 ECTS

Program Contents

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Contemporary History I (HIS0810)

Genesis of the contemporary world: origins of French Revolution: cultural, economic and social. Revolution political significance: political centralization, human rights and constitutionalism; American Revolution and Democracy in America: Scope and meaning of Industrial Revolution: Revolution and agricultural industrialization; Diversity in industrialization.

Liberalism and Nationalism in Europe (1815-48): Restoration, revolutions in Europe and New World; the birth of the nation: Romantic movement and nationalism.

Europe 1848 to 1918: the era of progress and equity, economic development and industrialization, nationalities movement: Italian & German unification, imperialism and colonization, labor and trade union movement.

Contemporary political and social thought: economic liberalism and the classical economists, liberalism and democracy, the Socialists.

History of science and scientific institutions: progress and scientific development, scientific voyages; scientific institutions.



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Introduction to Librarianship and Archives (HIS0459)

Module A-Library: 1 - Library and Information Sciences: Origin of librarianship in the context of the humanities and social relationship with other disciplines, their evolution, purpose and method of study, libraries and knowledge organization. 2 - The historical evolution of libraries: the private library for public libraries: the Portuguese example. 3-The libraries as places of information: the role of libraries in the context of the information society. 4 - Librarianship as a profession: organization and ethics of the profession. Module BFiles: Writing and Power. Documents, memory and history. Files and citizenship. What is a document? What is a file? Archival and diplomatic. Key elements of the document. The life cycle of documents. File Types. The notion of archival system. Current archives, intermediate and final. Archives of companies and administrative files.

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Introduction to Management and Entrepreneurship (GES0106)

I - Concepts, Evolution and Functional Areas of Management

1.2 Fundamental Concepts

1.2 The cycle / management evolution: Historical background

1.3 The functional areas of management

HRM Marketing Production Accounting and Financial Information

II - Strategy, Organization and Structures

2.3 Management by objectives, strategy and planning

2.4 Organizational structures

The role and importance of organizational structures; Variables determining the organizational structure

III - Entrepreneurship and Innovation

3.1 Entrepreneurship and innovation an option or a necessity?

3.2 Definitions and concepts of entrepreneurship

3.3. Types of entrepreneurs

3.4. Innovation and differentiation

3.5. Processes and types of innovation

IV - The Entrepreneurial Process

4.1 The Entrepreneurial Spirit

4.2 The resources

4.3 The opportunities

4.4. The business plan

4.5. An integrated strategy for entrepreneurship and innovation



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Introduction to Information Technologies (INF0871)

1. Information Systems
 - 1.1. Definition of Information System
 - 1.2. Difference between data and information
 - 1.3 Types of information systems
2. The Language of the Internet
 - 2.1. Introduction to HTML
 - 2.2. Fundamental concepts of HTML
 - 2.3. Information publishing on the Internet
3. The Use of Internet Portals
 - 3.1. Content management systems
 - 3.2. Application to a case study in the area of Information Sciences
4. The Word Processor
 - 4.1. Introduction to word processing
 - 4.2. The basic formatting
 - 4.3 The use of style sheets
 - 4.4 The construction of tables of contents
 - 4.5 The automation of various kinds of tasks

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Information Literacy (HIS0460)

1. Definition of concepts. The Internet and its history. Meaning of information literacy.
2. What? Defining information needs..
3. Where? Identifying and seeking information:
The different types of libraries, different types of archives. Introduction to the sources and different elements to search. Filters and search strategies.
4. How and why? Evaluation of the information:
Considering results and evaluation criteria. Reading techniques. Strategic parts of a book and a website.
5. The management and communication of information:
How to register the information. The international and national standards. The ISBN, the ISSN and ISMN. Citations and references. How to organize different academic papers.
6. Introduction to automatic search and housing information: Zotero or Endnote? Advantages and disadvantages of these systems. Choosing styles.
7. Good practice in the use of information:
Privacy, security, censorship and intellectual property.



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Topics in Databases I (INF0892)

1. Fundamentals of Relational Databases
 - 1.1. The relational data model
 - 1.2. Relation as a concept
 - 1.3. Primary key
 - 1.4. Foreign key
 - 1.5. Table normalization
2. Database tables
 - 2.1. Table creation
 - 2.2. Field definition
 - 2.3. Data types
 - 2.4. Basic integrity rules
3. Table join
 - 3.1. Foreign key application
 - 3.2. Conditions
4. Data search
 - 4.1. Introduction to SQL (Structured Query Language)
 - 4.2. Queries creation

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Technical English (LLT1233)

Oral production: sustained monologue: describing experience (e.g. personal identification, house/home, environment – leisure, hobbies & interests, intellectual & artistic pursuits – daily life, free time, etc.)

Written production: formal and informal letters, application forms, reports.

Listening comprehension: topics of personal and academic interest.

Reading comprehension: newspapers & magazines.

Spoken interaction: informal discussion/debate on a previously selected topic; role-play.

Written interaction: exchanging correspondence by letter or e-mail (e.g. asking for information, describing experiences and impressions, etc.)

Grammar: nouns; adjectives and adverbs; verbs; collocations; connectives; reported speech; punctuation devices.

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Latin I (LLT1768)

1. Phonetics and Prosody (Latin alphabet and “restored Latin pronunciation”; Latin accentuation; syllabic and vocalic duration; phonetic phenomena).
2. Morphology (Notions of root/radical, theme, linking vowel, characteristic, verbal and nominal desinences, nominal flexion; verbal conjugation; flexion of adjectives; flexion of pronouns; prepositions and concord; circumstantial and interrogative adverbs).
3. Syntax.



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History of Information (HIS0456)

- 1- Information technology in modernity: the importance of oral and written communication to the societies and economies, the Gutenberg printing press and its impact on cultural and political movements.
2. The production of information to the public sphere: a path of democratization of the book, the public use of reason to press freedom, as a driving force of democratic societies, public libraries and information.
3. The technical progress in information and communication: the organization of thought to the emergence of computerized machinery and means of communication and information: the affirmation of the periodical press, journalism and the telegraph, the first era of media: photography, cinema, radio and broadcasting television.
4. The Global Information Society: The revolution of information technology, the impact of new technologies on society and the economy, the impact of technological changes in print culture, Internet and cultural transmission.

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Relation and Communication (PSI1403)

1. The relationship (from the beginnings of communicative interaction to the relationship, the construction of the implicit relational knowing.)
2. Communication ("The behavior as communication or the impossibility of not communicating." The communication process and the importance of the different languages. The subject of the relationship as a communicative practice.)
3. Communicate and be in relationship with others. (Who am I and how I am with the other. The emotional literacy of social competence. The active listening. Empathy. The assertive communication.)

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Sociology of Communication and Media (SOC0172)

- 1 — The future of Communication
- 2 — Concepts and models
- 3 — The importance of the media
- 4 — Media Communication studies
- 5 — The Business of Media

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Topics in Databases II (INF0893)

1. Information search in relational databases
 - 1.1. The SQL language (Structured Query Language)
 - 1.2. Main components
 - 1.3. General syntax
 - 1.4. SQL clauses
2. Information search in linked tables
 - 2.1. Table join
3. Information search conditions
4. Data manipulation forms
5. Maps and other outputs

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Medieval Paleography and Diplomatics (HIS0854)

1. Palaeography and Diplomatic: the concepts
2. The writing and its evolution
3. Agents and production centers
4. Documents: the diplomatic level; types and formulas; the validation process
5. Paleographic transcription: rules and problems



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Public Administration and Administrative Processes (GES0002)

1. Basics of Public Management
 2. The Portuguese Public Administration
 3. The State Budget and the State's Financial Administration
 4. Common administrative processes of the Administrative Public Sector
 - 4.1. Hiring and Personnel Management in Public Administration
 - 4.2. The Management of Procurement, public works and the concession of works and public services
 5. The Control in Public Administration
 6. Strategy and Planning in Public Administration
 - 6.1. The definition of strategies and planning process
 - 6.2. Business plans, programs and annual reports
- Additional Issues of Public Management
- 7.1. The New Public Management
 - 7.2. Modernisation and Quality in Public Administration
 - 7.3. Innovation in Public Administration
 - 7.4. Information Management in Public Administration
 - 7.5. Public Sector Accounting
 - 7.6. Guarantees of citizens

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History of Contemporary Portugal I (HIS0823)

An overview of the Contemporary History of Portugal through the perspective of the political processes and dynamics, since the crisis of the Ancien Régime (1807) until the joining of the EEC in 1986. This syllabus emphasizes four topics: the periodization; the political transitions, the political institutions and the political citizenship. The main titles of those topics are:

1. THE PORTUGUESE HISTORIOGRAPHY ON CONTEMPORARY PORTUGAL.
2. TIMES OF REVOLUTIONS AND CHANGE: THE CONSTRUCTION AND CONSOLIDATION OF THE LIBERAL PORTUGAL (1808-1890).
3. THE CRISIS OF THE CONSTITUTIONAL MONARCHY AND THE 1ST REPUBLICAN EXPERIENCE (1890-1926)
4. THE ESTADO NOVO: THE AUTHORITARIAN AND ANTI-LIBERAL CICLE (1926-1974)



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Technical English (LLT1234)

1. Basic information:
 - What is a library?
 - What we know about libraries
 - Library workers: facts and figures
2. Academic libraries:
 - The largest university research libraries
 - ACRL data from non-ARL libraries
 - Standards for libraries in higher education
3. Public libraries:
 - Public library records
 - The 20 largest public libraries
 - How the states rank
 - Great American public libraries
 - Staying public: the real crisis in librarianship
4. School libraries:
 - Roles and responsibilities of the school library media specialist
 - School librarians and student performance
5. Special libraries:
 - Personal competencies for special librarians: applied scenarios
6. National libraries:
 - Library of Congress 2004 fact sheet
 - The German National libraries
7. Mobile libraries:
 - Bookmobile service in Ohio
 - Donkey-drawn libraries in Zimbabwe

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Latin II (LLT1769)

1. Phonetics and Prosody:
 - 1.1. Systematization of the aspects taught in Latin I.
2. Morphology:
 - 2.1. Continuous revision of the contents taught in Latin I;
 - 2.3. Adjectives
 - 2.4. Inflection of pronouns
 - 2.5. Inflection of verbs:
3. Syntax
 - 3.1. Continuous revision of the contents taught in Latin I;
 - 3.2. Subordinate clauses: how they are introduced and their function;
 - 3.3. Subordinate substantive sentences: object sentences; indirect interrogatives;
 - 3.4. Subordinate adverbial sentences: temporal; causal; causal; cum sentences; final; conditional, concessive and consecutive.
 - 3.5. Ablative absolute and its transformation;
 - 3.6. Expressions of design.
 - 3.7. Terms of comparison with comparatives and superlatives of adjectives;
 - 3.8. Passive agent.



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Information Management for Decision Support (GES0088)

1. Basic concepts: information and decision
2. Information Management
3. Information systems
4. Decision theory and models
5. Organizational Information Systems.

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Information Typologies and Supports (INF0889)

1. Introducing Information Architecture
 - 1.1. Defining Information Architecture
 - 1.2. Practicing Information Architecture
 2. The Anatomy of an Information Architecture
 3. Thesauri, controlled vocabulaires, and metadata
 4. Topics in XML
 - 4.1. Fundamental of XML
 - 4.2. DTD and schema
 - 4.3. Semantic web
 5. Process and Methodology
 - 5.1. Research
 - 5.2. Strategy
 - 5.3. Design and documentation
 6. DITA Architecture
 - 6.1. Main features
 - 6.2. The topic as the basic unit
 - 6.3. DITA typed topic specializations
- Structures

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Organization and Representation of Information I (HIS0461)

Organization of the documentation

- 1.1. Document
- 1.2. Documentary chain
2. Normalization
 - 2.1. References
 - 2.1.1. NP 405
 - 2.1.2. APA
3. ISBD
 - 3.1. ISBD's specific
 - 3.2. Consolidated ISBD
4. Cataloguing
 - 4.1. Principles and Concepts
 - 4.2. Portuguese Cataloguing Rules
 - 4.3. Other Cataloguing Rules
 - 4.3.1. Textual Material
 - 4.3.2. Material non-book
 - 4.3.2. Electronic document



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Archive Management (HIS0452)

Part I. The Archival Science and the Information Sciences

ABCI/GA.I-U1. Why do archives exist? (General overview of the Archival Science and of the Archives). The social function of the archivist.

ABCI/GA.I-U2. Archival knowledge as science.

Part II. The Archives as an Information System

ABCI/GA.I-U3. Basic principles of the archival systems

ABCI/GA.I-U4. Archives and business management

ABCI/GA.I-U5. Models of records management

Part III. Archival Management in State Archives and in Business Organizations.

ABCI/GA.I-U6. The Portuguese National Archives System.

ABCI/GA.I-U7. Archives in Business Organizations: information management as an asset .

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Modern Paleography and Diplomatics (HIS0855)

1. Early Modern Paleography:

Notion of Palaeography and the history of writing.

The material production of texts: supports, inks and writing tools.

Introduction to major types of handwriting.

General features of ancient writing (15-18th century).

Criteria for transcription.

The abbreviations.

2. Revisit elementary notions of Arquivistic:

Respect for provenance and original order and the criteria for the organization of archives.

Extreme dates and accumulation dates.

Notion of collection.

Research tools.

3. Diplomatic:

The Diplomatic as area of knowledge: a knowledge into disuse?

The main typologies of documents of the Early Modern times.

Document validation systems.

4. Editing ancient texts: introduction to critical apparatus and criteria for indexing.

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Programming I (INF0880)

Introduction: Basic notions of statement and algorithm, Basic notions of variable and expression

Control structures: Conditionals, Loops

Basic data structures: Lists, Dictionaries, Tuples

Abstraction mechanisms: Functions

Recursion

Applications

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History of Contemporary Portugal II (HIS0824)

The main themes on History of Portugal (19th and 20th centuries) are:

1. Population, Family and Migration (1800-1990)

2. Society and Social Change in Portugal (1800-1970)

3. The Portuguese Economy in the 19th and 20th centuries: Transition, Dynamics and Debates.

4. Portugal and the 3rd Empire: Construction and Fall (1836-1975).

5. Portugal and the European Construction.



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Marketing I (GES0118)

Informação não fornecida.

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Documental Management Systems (INF0885)

1. The Information in Organizations
2. Electronic Documents
3. Document Management
4. Electronic Document Management Systems (EDMS)
5. Content Management
6. Applications
 - 6.1. Commercial and open source applications
 - 6.2. Investment
 - 6.3. Support models
 - 6.4. Standards and Interoperability
 - 6.5. Electronic Government (E-Government)
 - 6.6. Content analysis

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Data Processing and Qualitative Analysis (SOC0210)

- I. Theoretical and epistemological assumptions of QR
 - 1.1 Quantitative and qualitative: dichotomy or continuum?
 - 1.2 The positivist and interpretative paradigms
 - 1.3 Theoretical Traditions in QR
 - 1.4 The perspective and craft of the qualitative researcher
- II. The design of the QR
 - 2.1 Problems, model and research questions
 - 2.2 Sampling strategies
 - 2.3 Entering the field
 - 2.4 Ethical Issues
- III. Data collection: key strategies in QR
 - 3.1 Interview
 - 3.2 Ethnography and participant observation
 - 3.3 Life histories and biographical method
 - 3.4 Visual Methodologies
- IV. Analysis and interpretation of empirical material
 - 4.1 Characteristics of qualitative data analysis
 - 4.2 Qualitative content analysis
 - 4.2.1 Preliminary treatment and definition of the corpus and floating reading
 - 4.2.2 Exploring, coding and categorization
 - 4.2.3 The limits of inference
 - 4.2.4 QDA software
- V. Presentation of results in QR
 - 5.1 Presentation of Qualitative Data
 - 5.2 Writing as a process of knowledge



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History of the document production management I (HIS0454)

I

(Middle Ages)

1. From the supremacy of orality to the writing governance: routes of the medieval administration
2. Men of writing: the evolution to conveyancing
3. Levels of administrative construction and centers of power
4. The documentary production and the constitution of archives
5. Documentary typologies and circulation circuits

II

(Early Modern Period)

1. The institutional framework of the Old Regime and its legal and political grounds.
2. Morphology of powers, normative framework and recording practice
3. Forms of communication. Some typologies and documentary circuits.
4. Concerns gathering files: from kinsfolk to institutions.
5. Personal "annuities" and collections.
6. Social requirements and falsification of documents: some illustrative examples; precautions to consider.

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Organization and Representation of Information II (HIS0462)

UNIMARC

- 1.1. UNIMARC in several documentary typology
2. Organization and Information Retrieval in automated systems
 - 2.1. Bibliographic Record
 - 2.2. Registration Authorities
3. Library 2.0
 - 3.1. OPAC 2.0
 - 3.2. social cataloging
4. The Digital at CID
 - 4.1. Digital Libraries
 - 4.2. Digital Archives

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Participation, Negotiation and Conflict Management (GES0131)

1. Introduction
 - 1.1. Organizational models in change context;
 - 1.2. Decision-making processes.
2. Organizational Participation
 - 2.1 - Information and communication systems
 - 2.2 - Participation and creation of a culture of empowerment
3. Conflict
 - 2.1. Approach perspectives and conflict types;
 - 3.2. Development phases of a conflict;
 - 3.3. Conflict management.
4. Negotiation
 - 4.1. Basic characteristics of a negotiation process;
 - 4.2. Bargaining orientation;
 - 4.3. Stages of a negotiation process;
 - 4.4. Bargaining strategies, techniques and tactics;
 - 4.5. Negotiation in specific contexts.



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Programming II (INF0881)

I - Basics of Object Oriented Programming

Objects

Classes

Messages

encapsulation

II - The Java language

Java classes

variables and instance methods

method overloading

non instantiable classes

class hierarchy and inheritance

inheritance mechanism for classes definition

Dynamic lookup for methods

Inheritance vs class composition

abstract classes

Interfaces

Exceptions

Input/output, and streams

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Contemporary History II (HIS0812)

1. History of International Relations: 1.1 From the Vienna Congress to Franco-Prussian War. 1.2. From Bismarck system to the Great War. 1.3. From the Great War to Peace (1914-1923). 1.4. The origins of the 2nd World War 1.5. The 2nd World War. 1.6. The origins of the Cold War. 1.7. "East-West relations: from Korean war to the implosion of USSR. 1.8. The rise of the Afro-Asian World. 1.9. The post-Cold War: from the unipolar world to post-unipolarity. 2. Economic History: 2.1. Global economy in the age of the 2nd globalization (1870-1918). 2.2. World economy between wars. 2.3. Developed economies after the 2nd World War: 60 intriguing years. 2.4. Rise and consolidation of new protagonists (c. 1960-2010). 2.5. Big economic and trade blocs and tensions between protectionism and free trade. 3. Culture and Society: 3.1. Europe and North America: social and cultural issues (1945-2010). 3.2. Bolshevik revolution and fascist revolutions: history and historiography.

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Production of Multimedia Content (INF0876)

Multimedia data types

Multimedia data manipulation

Tools for building multimedia applications

Prospects for future development (mobility, context)



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Project Management (GES0090)

1. Framework
 - 1.1. Fundamental concepts
 - 1.2. Life cycle of a project
2. Organization
 - 2.1. Organizational structure
 - 2.2. Processes in project management
 - 2.3. Integration of project management
 - 2.4. Constitution and Management Team
3. Planning and Programming
 - 3.1. The scope of the project
 - 3.2. Costs and budget
 - 3.3. The time schedule
 - 3.4. Analysis of project viability
4. Monitoring, risk and control project
 - 4.1. Contracting resources
 - 4.2. Quality throughout the project
 - 4.3. Project Management and Risk

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History of the document production management II (HIS0455)

1. The Portuguese Public Administration from the Ancien Regime to the Liberal Era
2. The Portuguese Public Administration from the Constitutional Monarchy to the First Republic
3. The New State Corporative and their organization
4. The private organizations in Portugal from the Liberal Era to the New State: the business and financial institutions, the firms, the cooperatives and the regulation of the economy.

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Archival Description (HIS0450)

1. Archival Description: objectives and principles. Basic concepts and terminology. The Dictionary of Elements Description of the SAA. Multilevel description and records control.
2. The use of the Dublin Core Data Element Set in records description of different types and media;
3. The international standards: MAD2, ISAD (G); ISAAR (CPF); ISIAH; ISAF)
4. Using ISAD (G) in Archival Description
5. Using ISAF for describing functions
6. Using ISAAR (CPF) for describing entities
7. Using ISIAH for describing Archival Holdings
8. Coding rules for geographic names, countries, languages, dates and subjects
9. Authorities lists and indexation of archival records

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Contemporary Literary Trends (LLT1225)

1. Defining vectors of modernity.
2. Modernisms and break conventions. Theories and manifestos.
Mário de Sá-Carneiro, Short Stories, T. S. Eliot, The Waste Land, Frank Kafka, Metamorphosis
3. The Surrealist Revolution and the emergence of the unconscious.
The surrealist poetry: examples of Mario Cesariny, Herbert Helder.
Ruben A., Colors
4. Existentialism and the strangeness.
Albert Camus, The Stranger and Virgilio Ferreira



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Marketing II (GES0119)

- 1 - The Marketing Plan
- 2 - Brand Management
 - 2.1. Brand concept and functions
 - 2.2. Brand Identity types
 - 2.3. Brand identity management
- 3 - Product
 - 3.1 The role of product in the marketing mix
 - 3.2 New product development
 - 3.3 The product life cycle
 - 3.4 Product-mix
- 4 - Price
 - 4.1. The role of price in the marketing mix
 - 4.2. Price management
 - 4.3. Final price definition
- 5 - Distribution
 - 5.1. The role of distribution in the producer's marketing mix
 - 5.2. Distribution functions
 - 5.3. Distribution channels
 - 5.4. The marketing policy of distributors
 - 5.5. Remuneration of distribution
 - 5.6. The sales force
- 6 - Communication
 - 6.1. The role of communication in the marketing mix
 - 6.2. Concept and functions of communication
 - 6.3. Communication-Mix
 - 6.4. Media Strategy and Planning

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Theory and Methods of Heritage Research and Survey (HIS1035)

- 1. Origin and evolution of the concept of cultural heritage , with application to the Portuguese case .
- 2 . The historical development of conservation and restoration in artistic goods : from antiquity to 18th the century
- 3 . The birth of monumental restoration
- 4 . A contemporary reflection : restoring critical ; theses Cesare Brandi , the conservation of collections and historic sites
- 5 . Basic concepts : maintenance, preventive maintenance , remedial conservation , restoration, rehabilitation , renovation
- 6 . Letters and International Conventions . Portuguese legislation .
- 7 . National and international protection , management and conservation of cultural heritage .
- 8 . Initiation methods and survey techniques of cultural heritage in its various forms . Case studies .



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Algorithms and Data Structures I (INF0868)

1. Introduction to algorithms analysis

- Spatial and Temporal Complexity
- Best case, worst case and expected case
- notations Big-O, Omega and Theta
- Analysis of iterative and recursive algorithms

2. Abstract data types

- Lists, Stacks, Queues
- Trees
- Binary trees, binary trees traversals
- Binary search trees
- Perfectly balanced and balanced trees
- AVL Trees
- Priority queues: binary heaps, construction of a heap from a vector
- Hash tables: Collisions and its resolution

3. The sorting problem

- Presentation, analysis and comparison of the behavior of some sorting algorithms: BubbleSort, Insertion sort, Mergesort, Heapsort, Quicksort and Bucketsort

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Databases (INF0864)

Introduction: Management System Database, Data Model, Languages of Databases.

Entity Relationship Model: Basic concepts (entity and relationship); Design of ER Model; constraints mapping; Clark, ER Diagram, Weak Entity; Extensions to the ER model; Model Reduction of an ER schema tables.

Relational Model: Structure of Relational Databases, Relational Algebra (operators) Extensions of Relational Algebra. Modification of the Database.

Languages manipulation of databases (SQL): Basic structure and set of SQL operations, Aggregate Functions, Modification of the base data and views, data definition language.

Database Integrity: Domain Restrictions, referential integrity, assertions and triggers, functional dependencies.

Database Normalization: Functional dependencies, Boyce-Cood, normal form and 3rd normal form.

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Programming Languages (INF0872)



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Organizational Behaviour and Human Resources Management (GES0027)

- Module 1. Organizational Behaviour and Human Resources Management: delimitation and areas of fork of the two areas
- Module 2. Leadership and Power
- Module 3. Motivation and satisfaction in the work
- Module 4. Organizational Communication
- Module 5. Participation and negotiation
- Module 6. Culture and ethical organizational
- Module 7. Tendencies of the organisational models
- Module 8. The development of the work face to the legislation in vigour
- Module 9. The human resources management (GRH) as sub-system of management system: Of the stages of the evolution of GRH to the main dimensions and politics of GRH
- Module 10. Strategic Plan of human resources
- Module 11. Recruitment, Selection and Integration
- Module 12. Management systems and evaluation of the performance
- Module 13. Reward Systems
- Module 14. Systems of Health and Safety in the Work
- Module 15. Formation Systems and Development of the human resources
- Module 16. Information Management Systems of human resources (SIGRH)

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Information Law and Ethics (ECN0448)

- 1) the Right Public/Private Law: legal disciplines linked to the Economy;
- 2) The legislative process; 3)
- 3) The legal relationship;
- 4) standards and juridical interpretation;
- 5) specific aspects of fundamental disciplines: Constitutional Law; Civil; Administrative; Criminal; Work and Administrative Procedure

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Methods and Development of Software (INF0874)

- Presentation.
- Knowledge base revision and consolidation
- UML - An Introduction
- Structural components
- Use cases
- Components behavior
- OCL - Object Constraint Language
- Patterns

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Management of Information Systems (GES0011)

- 1. Issues, objectives and course content.
- 2. Organization, Management, and Information System
- 3. Role of Professionals and IS Service
- 4. Strategy of Systems and Technology Information
- 5. Management Information Systems
- 6. Analysis, Development and Implementation of Systems
- 7. Economics of Information and Investment Management in IS/IT



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Cultural Animation in Libraries (HIS0804)

1. The crisis of the library as a physical space and the library as a "third place".
2. The library and the right to culture as a human right.
3. Public and "non-public". "Cultural Action": a lost paradigm?
4. From Action to Animation in Library.
5. Factors determining the success of a library.
6. Types of animation activities of the library.

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Computer Graphics (INF0866)

Context of Computer Graphics

Computer Graphic 2D - Bases

Computer Graphic 2D - Rendering

Computer Graphic 3D - Bases

Computer Graphic 3D - Contents

Computer Graphic 3D - Geometric Transformations

Computer Graphic 3D - Visualization

Computer Graphic 3D - Illumination and Textures

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Algorithms and Data Structures II (INF0869)

Temporal and spatial complexity analysis. Dictionary abstract data type: trie; B-tree. Union-find. Graphs and graph algorithms: dense and sparse graphs; breadth-first walk; depth-first walk; topological sort; strongly connected components; minimum spanning tree; the Bellman-Ford, the Dijkstra and the Floyd-Warshall algorithms.

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History of the Book and Reading (HIS0860)

The time of Paper Manuscript: invention of writing, revolution of the alphabet, the book in antiquity: from the rolls to Codex;

The Book to the Age of Enlightenment: From manuscript to printed book, The impact of Gutenberg press in the production and book trade, the book on Humanism and the Reformation.

Books and reading practices in 18 century: books and reading in England and 18 century France; Bibliophile and collectors: the Portuguese example, public libraries and reading clubs.

The path of democratization of the Book, from Romanticism to the XXI century: The development of the periodical press, the evolution in the practices of reading, editing romantic: the editorial success of the novel mobile libraries - the Portuguese example.

The electronic revolution and its impact on the book and the practices of reading: From codex to the screen, the electronic book; new modes of production and transmission of texts: hypertext and hipper - reading ; the libraries in the electronic age.



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Museology (HIS0129)

I - Collecting - cultural history of a passion

1. Collecting
2. The object as representation and knowledge

II - From the private collection to public museum

1. The genesis of the modern museum in the 18th century: public access to collections
2. The museum experiences inspired by New Museology (1973) and enlargement of the concept of Cultural Heritage
3. The museum renovation from the 1980's to the present day

II - Functions and spatiality of the Contemporary Museum

1. Study and Research
2. Merger and Documentation
3. Conservation
4. Security
5. Interpretation and Exhibition
6. Disclosure
7. Education
8. Programming
9. Public spaces and reserved spaces - architecture and equipment

III - National and international institutions of Museology

1. The framework law of museums - museums of the government area of culture
2. Accreditation and museums network - the Portuguese network (rpm) ; thematic networks , regional networks
3. ICOM : code of ethics and defining museum

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Computer Networks (INF0884)

OSI Model

Modulation

Codification

Error detection and error correction

Flow control

Medium Access Control Algorithms (MAC-sublayer), in wired and wireless networks

Routing

IP addressing

TCP - connections, flow and congestion control

Programming within the TCP/IP framework, using sockets.