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| Course Unit | Internet Services | | Field of study | Information Systems | |
| Bachelor in | Informatics and Communications | | School | School of Public Management, Communication and Tourism | |
| Academic Year | 2023/2024 | Year of study | 1 | Level | 1-1 |
| Type | Semestral | Semester | 1 | ECTS credits | 6.0 |
| Code | | | 9188-320-1105-00-23 | | |
| Workload (hours) | 162 | Contact hours | T | 15 | TP |
| | | | PL | 45 | TC |
| | | | S | - | E |
| | | | OT | 20 | O |

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Joao Miguel Pinto Candeias

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Know the fundamentals of the Internet and the access forms to it.
2. Make use of the services associated to Internet. Namely, WWW, email, file transfer, news groups, chat and videoconference.
3. Understand the basic rules for a secure use of the services.
4. To install, configure and use client software for Internet services.
5. To know and use the principal Internet services.
6. To know the privacy and security aspects on using Internet.

Prerequisites

Before the course unit the learner is expected to be able to:
Basic informatics skills.

Course contents

Introduction to computer networks and Internet. Fundamentals, and utilization examples, of services, such as www, email, newsgroups, file transfer, resource identification, name resolution, chat, audio and video broadcast. Type of software. Basic security notions for a secure use of services.

Course contents (extended version)

1. Computer networks fundamentals.
 - Telematics.
 - Computer networks.
 - OSI and TCP model.
2. Internet.
 - Introduction.
 - Communication protocols.
 - Access to the Internet.
3. World Wide Web.
 - Fundamentals.
 - Browsers.
 - Searching information.
 - Web 2. 0.
 - The future of the Web: Semantic Web.
4. File transfer.
 - Fundamentals.
 - Client applications.
 - Operations.
5. Name Service Resolution: DNS.
 - Name space.
 - Client applications.
 - Domain Registration.
 - Hierarchy.
 - Name resolution.
 - Dynamic DNS.
6. Communication by text, audio and video on the Internet.
 - eMail.
 - Newsgroup.
 - Internet Relay Chat.
 - Instant messages.
 - IP Telephony and VoIP.
 - Videoconference.
7. Audio and video broadcast.
 - Introduction.
 - Audio and video transport protocols.
 - Audio and video streaming.
8. Identify and locate resources on the Internet.
 - Uniform Resource Location (URL) and (Uniform Resource Identification).
9. Security.
 - Confidentiality.
 - Malicious software.
 - Data protection.
 - Digital signature.
 - Threats.
 - Protection software.
10. Quality of Service.
11. Security.
 - Digital certification.
 - Public key.
 - Document signing.
 - Document Encryption.
 - Viruses and other malicious programs.
12. Basic configuration of Internet services.

Recommended reading

1. Sousa, J. P. & Gomes, J. P. (2016). Apontamentos da disciplina de Serviços de Internet. ESACT/IPB.
2. António P. F. (2015). Informática e Tecnologias da Informação, Edições Sílabo. ISBN: 9789726187844
3. Ribeiro, N. (2012). Multimédia e Tecnologias Interativas (5ª Edição Atualizada e Aumentada). FCA. ISBN: 978-972-722-744-0.
4. Coelho, P. (2017). Internet das Coisas - Introdução Prática. FCA. ISBN: 978-972-722-849-2.

Teaching and learning methods

For each topic an theoretical introduction will be made using the expository and interrogative method. Also a practical approach will be made using the demonstrative method.

Assessment methods

1. Continuous assessment - (Regular, Student Worker) (Final)
 - Intermediate Written Test - 60% (Two written tests. Minimum mark 7 values.)
 - Practical Work - 40% (Practical works. Minimum mark 7 values.)
2. Final assessment - (Regular, Student Worker) (Supplementary, Special)
 - Final Written Exam - 100% (Written exam.)
3. Erasmus Students - (Regular) (Final, Supplementary, Special)
 - Practical Work - 100% (A practical work about a subject.)

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation

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|----------------------------|-------------------------------|------------------------------|------------------------------|
| Joao Miguel Pinto Candeias | Vítor José Domingues Mendonça | Anabela Neves Alves de Pinho | Luisa Margarida Barata Lopes |
| 08-10-2023 | 13-10-2023 | 13-10-2023 | 15-10-2023 |