



## Course guides

### 230321 - HI - History of Computing

Last modified: 06/05/2019

**Unit in charge:** Barcelona School of Telecommunications Engineering  
**Teaching unit:** 701 - DAC - Department of Computer Architecture.

**Degree:** BACHELOR'S DEGREE IN TELECOMMUNICATIONS SCIENCE AND TECHNOLOGY (Syllabus 2010). (Optional subject).  
BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN ELECTRONIC SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).  
BACHELOR'S DEGREE IN TELECOMMUNICATIONS SYSTEMS ENGINEERING (Syllabus 2010). (Optional subject).  
BACHELOR'S DEGREE IN NETWORK ENGINEERING (Syllabus 2010). (Optional subject).  
BACHELOR'S DEGREE IN TELECOMMUNICATIONS TECHNOLOGIES AND SERVICES ENGINEERING (Syllabus 2015). (Optional subject).  
BACHELOR'S DEGREE IN ELECTRONIC ENGINEERING AND TELECOMMUNICATION (Syllabus 2018). (Optional subject).

**Academic year:** 2019    **ECTS Credits:** 2.0    **Languages:** Catalan

#### LECTURER

**Coordinating lecturer:** Jordi Fornés de Juan

**Others:** Jordi Fornés de Juan

#### REQUIREMENTS

No requeriments

#### TEACHING METHODOLOGY

Each session has a number of compulsory and recommended readings. The first should have done before attending the meeting in question. The format of the meetings will be quite participatory, encouraging discussion.

#### LEARNING OBJECTIVES OF THE SUBJECT

- Comprendre i analitzar críticament el paper de la informàtica en la societat actual, a partir dels processos històrics que l'han configurada.
- Identificar el paper dels diversos actors (usuaris, institucions d'ensenyament i recerca, fabricants i governs) en la innovació informàtica.
- Orientar-se en la bibliografia més rellevant sobre aquestes qüestions.
- Comunicar oralment i per escrit arguments històrics i científics.

#### STUDY LOAD

Type	Hours	Percentage
Hours large group	20,0	40.00
Self study	30,0	60.00

**Total learning time:** 50 h



## CONTENTS

### 1- Tools, themes and periods

**Description:**

- 1.1 The history of History. A methodologic notes.
- 1.2 The big issues: topics on the history of computing.
- 1.3 Chronology.

**Full-or-part-time:** 3h

Theory classes: 3h

### 2- Before computers. Automatic computing and the government machine

**Description:**

- 2.1 Babbage and Ada
- 2.2 Leonardo Torres Quevedo
- 2.3 Hermann Hollertith
- 2.4 Analog computer

**Full-or-part-time:** 3h

Theory classes: 3h

### 3- Computers at war

**Description:**

- 3.1 Alan M.Turing
- 3.2 Konrad Zuse.
- 3.3 John P. Eckert, John W. Mauchly and John von Newman
- 3.4 Sir Maurice V. Wilkes.

**Full-or-part-time:** 3h 30m

Theory classes: 3h 30m

### 4- On hippies and hackers. Main, Mini, Micro

**Description:**

- 1.1 IBM and the Seven Dwarfs
- 1.2 DEC culture
- 1.3 The PC revolution

**Full-or-part-time:** 3h 30m

Theory classes: 3h 30m

### 5- Cyberspace

**Description:**

- 5.1 The origin of Internet
- 5.2 Internet in Europe
- 5.3 Iberpac and the Tesys project

**Full-or-part-time:** 3h 30m

Theory classes: 3h 30m



## 6- Computing in Spain (1950-1982)

### Description:

Traducir del: español

6.1 State support: from "Instituto de Electricidad y Automática" to "Instituto de Informática"

6.2 Professionalization: the Computing Technicians Association

6.3 Training: the first Schools of Informatics

**Full-or-part-time:** 3h 30m

Theory classes: 3h 30m

## GRADING SYSTEM

The seminar evaluation consists of 1,024 points, distributed as follows: 256 in a paper of approximately 2,000 words in the form of research paper on a topic related to the history of computing, 256 points in a final exam, 256 points in participation in the discussions and 256 in proposed exercises.

## BIBLIOGRAPHY

### Basic:

- Ceruzzi, Paul E. A history of modern computing. 2nd ed. Cambridge (Mass.): MIT Press, 2003. ISBN 0262532034.
- Barceló, Miquel. Una història de la informàtica. Barcelona: Editorial UOC, 2008. ISBN 9788497887045.

### Complementary:

- Ensmenger, Nathan. The computer boys take over. Cambridge: MIT Press, 2010. ISBN 9780262517966.
- Singh, Simon. Los códigos secretos: el arte y la ciencia de la criptografía, desde el antiguo Egipto a la era Internet. Madrid: Debate, 2000. ISBN 848306278X.
- Maixé-Altés, J. Carles. Innovació i compromís social : 60 anys d'informatització i creixement, 1950-2011. Barcelona: Caixa d'Estalvis i Pensions de Barcelona, 2012. ISBN 9788469542279.
- Campbell-Kelly, Martin. Computer: a history of the information machine. 2nd ed. Boulder, CO: Westview, 2004. ISBN 9780813342641.
- Turner, Fred. From counterculture to cyberculture : Stewart Brand, the Whole Earth Network, and the rise of digital utopianism [on line]. Chicago: University of Chicago Press, 2006 [Consultation: 02/04/2020]. Available on: <https://ebookcentral-proquest-com.recursos.biblioteca.upc.edu/lib/upcatalunya-ebooks/detail.action?docID=602624>. ISBN 9780226817439.
- Abbate, Janet. Inventing the Internet [on line]. Cambridge, MA: MIT Press, 2000 [Consultation: 02/04/2020]. Available on: <https://ebookcentral.proquest.com/lib/upcatalunya-ebooks/detail.action?docID=3338844>. ISBN 9780262266703.
- Fara, Patricia. Science: a four thousand year history. Oxford: Oxford University Press, 2009. ISBN 9780199580279.
- Black, Edwin. IBM y el holocausto. Buenos Aires: Atlántida, 2001. ISBN 9500824663.
- Kidder, Tracy. The soul of a new machine. London: Penguin books, 1981. ISBN 0316491705.
- Clifford, Stoll. El huevo del cuco. Barcelona: Planeta, 1990. ISBN 8432044661.
- Calvo Calvo, Ángel. Telecomunicacions y el nuevo mundo digital en España: la aportación de Standard Eléctrica. Barcelona: Planeta, 2013. ISBN 9788408113157.