

Industrial applications

Computer Engineering and PC Computers

IDENTIFICATION

CODE : GEA-4-S1-EC-IF3
ECTS : 2.0

HOURS

Lectures : 10.0 h
Seminars : 14.0 h
Laboratory : 4.0 h
Project : 0.0 h
Teacher-student
contact : 28.0 h
Personal work : 15.0 h
Total : 43.0 h

ASSESSMENT METHOD

1 x 2h

TEACHING AIDS

Paper course-book, tutorials,
practical work [PC and Microcontroller].
On line documents [PPT, PDF] and
programs

TEACHING LANGUAGE

French

CONTACT

M. MASSOT Bertrand
bertrand.massot@insa-lyon.fr

AIMS

Not accessible to exchange students

Design and programing of applications dealing with interrupt.
Assembler programing of interrupt
Understanding and programing the X86 Intel architecture.
Understanding and programing the segmented memory model.
Understanding the stack and its usage.

CONTENT

PC architecture
X86 architecture and machine language programming
Interrupt programming
Memory management
Registers
Interrupt programming
Stack management
Application programming with practicals
Object oriented design and programming

BIBLIOGRAPHY

- [1] Pentium III Datasheet, Order Number: 244452-002, May 1999
- [2] Intel Architecture Software Developers Manual, 3 volumes Basic Architecture, Instruction set reference, System programming, PDF files
- [3] Le nouveau guide du PC, Jack Steiner, Ed. Osman Eyrolles Multimédia
- [4] Troubleshooting, maintaining et repairing PCs, S.J.Bigelow, Mc Graw Hill,
- [5] PCI Hardware and software : Architecture and design, nth edition, Solari, Ed / Willse, George, Annabooks
- [6] PCI System architecture, nth edition,Anderson, Don / Shanley, Tom / et al., Addison Wesley
- [7] Computer Architecture and Design, A.J. Van de Goor, Addison Wesley
- [8] Introduction to UML 2.0, Miles & Hamilton, O. Reilly, 2006
- [9] C++ language 3rd edition, Bjarne Stroustrup, CampusPress, 1999

PRE-REQUISITE

GEA-3-IF1 or equivalent
and GEA-3-IF2 or equivalent

INSA LYON

Campus LyonTech La Doua

20, avenue Albert Einstein - 69621 Villeurbanne cedex - France
Phone +33 [0]4 72 43 83 83 - Fax +33 [0]4 72 43 85 00

www.insa-lyon.fr