**UNIVERSITÀ DI PISA**
Dipartimento di Informatica
Dipartimento di Ingegneria dell'Informazione

ISTITUTO
DI TECNOLOGIE DELLA
COMUNICAZIONE,
DELL'INFORMAZIONE
E DELLA
PERCEZIONE

Scuola Superiore
Sant'Anna

# Master Degree Program in Computer Science and Networking
## STUDENT STUDY PLAN – 2012-13

To be submitted to the Master Program Secretary, Dept. of Computer Science. **Deadline: June 3, 2013.**

Last name ………………………………………………………………………………………….

First name …………………………………………………………………………………………

University of Pisa Registration Number (Numero di matricola) …………………………………...

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**FIRST YEAR** – total 57 CFU – **only Major (mandatory) exams** (6)

| | | |
|---|---|---|
| *Advanced Programming (PA)* | 9 CFU | 1st semester |
| *Algorithm Engineering (ALE)* | 9 CFU | 2nd semester |
| *Fundamentals of Signals, Systems and Networks (FSR)* | 12 CFU | annual |
| *High Performance Computing (HPC)* | 9 CFU | 1st semester |
| *Network Configuration and Management (GCR)* | 9 CFU | annual |
| *Teletraffic Engineering (IT)* | 9 CFU | 2nd semester |

**SECOND YEAR** – total 63 CFU – **2 Major (mandatory) exams + Study Plan + Master Thesis** (15 CFU)

| | | |
|---|---|---|
| *Distributed Systems: Paradigms and Models (SPM)* | 9 CFU | 1st semester |
| *Software Service Engineering (ISS)* | 9 CFU | 1st semester |
| ***STUDY PLAN exams*** | $\geq$ 30 CFU total | |

A Study Plan consists of **three Minor (subsidiary) activities**, plus the 9-CFU Minor activity called "**free-choice exam**".

The Master Board recommends Study Plans which are built around two Schemes:

- *Scheme 1*: more oriented towards architectures and tools for computer systems and networking, and development of distributed applications;
- *Scheme 2* : more oriented towards network technologies, principles and technologies for optical and photonic communication.

A Study Plan proposal respecting the rules of Scheme 1 or Scheme 2 (see below) is automatically approved, otherwise it is submitted to the Master Board analysis.

**SCHEME 1**
    *Activity 1*: a course in Group 1
    *Activity 2*: a course in Group 2
    *Activity 3*: a course marked with "x" in columns "Study Plan 1.1"
    *Activity 4*: a course marked with "x" in columns "Study Plan 1.2"
**SCHEME 2**
    *Activity 1*: a course in Group 1
    *Activity 2*: **Theory and Techniques of Optical Communications**
    *Activity 3*: a course marked with "x" in columns "Study Plan 2.1"
    *Activity 4*: a course marked with "x" in columns "Study Plan 2.2"

The total CFUs for the four Minor exams must be $\geq$ 30. A typical 30-CFU Study Plan consists of two 9-CFU courses (including the free-choice one) and two 6-CFU courses. The student is allowed to build a Study Plan consisting of more than 30 CFUs (as well as to include more than four Minor exams).
In order to complete a Study Plan consisting of three 6-CFU exams and one 9-CFU exam, the student can choose an 18-CFU Master Thesis by including the 3-CFU module called *Survey in Preparation of the Final*

*Proof.*

***Select one of the two Schemes***:  **Scheme 1 ☐**  **Scheme 2 ☐**

***Mark the selected exams with a "X" inside the rectangle containing the exam name*:**

***Minor activity courses – Group 1: at least one exam***

| Exam name | CFU | Semester | Study Plan 1.1 | Study Plan 1.2 | Study Plan 2.1 | Study Plan 2.2 |
|---|---|---|---|---|---|---|
| *Models of Computation (MOD)* | 9 | 2 | x | x | | x |
| *Network Security (SR)* | 9 | 2 | x | x | | x |
| *Programming Tools for Parallel and Distributed Systems (SPD)* | 6 | 2 | x | x | | x |

***Minor activity courses – Group 2: at least one exam***

| Exam name | CFU | Semester | Study Plan 1.1 | Study Plan 1.2 | Study Plan 2.1 | Study Plan 2.2 |
|---|---|---|---|---|---|---|
| *Laboratory of Routing Protocols and Architectures (LPA)* | 6 | 1 | | x | x | x |
| *Network Optimization Methods (MOR)* | 6 | 2 | | x | x | x |
| *Networking Architectures, Components and Services (ACS)* | 9 | 2 | | x | x | x |
| *Networks and Technologies for Telecommunications (RTT)* | 9 | annual | | x | x | x |
| *Packet-Switching and Processing Architectures (AED)* | 6 | 2 | | x | x | x |
| *Performance and Design Issues of Wireless Networks (ARW)* | 6 | 2 | | x | x | x |
| *Theory and Techniques of Optical Communications (TCO - **mandatory for Study Plan 2**)* | 9 | annual | | x | | |

***Minor activity courses – Group 3***

| Exam name | CFU | Semester | Study Plan 1.1 | Study Plan 1.2 | Study Plan 2.1 | Study Plan 2.2 |
|---|---|---|---|---|---|---|
| *Applied Optics and Propagation (POA)* | 6 | 2 | | | x | x |
| *Distributed Enabling Platforms (PAD)* | 6 | 1 | x | x | | x |
| *Embedded Systems (SE)* | 6 | 1 | | x | x | x |
| *Formal Methods for Security (MFS)* | 6 | 2 | | x | | |
| *High Performance Scientific Computing (HSC)* | 6 | 1 | x | x | | x |
| *Information Retrieval (IR)* | 6 | 1 | x | x | | x |
| *Laboratory of Photonic Systems (LSF)* | 6 | 1 | | | x | x |
| *Methods for the Specification and Verification of Business Processes (MBP)* | 6 | 1 | | x | | |
| *Networked Virtual Environments (AVR)* | 6 | 1 | | x | x | x |
| *Optical Amplification and Sensing (AOS)* | 9 | 1 | | | x | x |
| *Parallel and Distributed Algorithms (ALP)* | 6 | 1 | x | x | | |
| *Peer to Peer Systems (P2P)* | 6 | 1 | | x | | x |
| *Photonic Switching (CF)* | 9 | annual | | | x | x |
| *Real Time Systems (SRT)* | 6 | 1 | | x | x | x |
| *Security Issues in Web Applications (PSW)* | 6 | 2 | x | x | | x |
| *Survey in Preparation of the Final Proof* | 3 | - | x | x | x | x |
| *Wireless Networks of Embedded Systems (RWE)* | 6 | 2 | | x | x | x |

***Free Choice Exam: 9 CFU – Write here which of the selected exams is the Free Choice Exam:***
……………………………………………………………………………………………………………………
…

*Write here the total number of CFUs of your Study Plan, including the Major CFUs:*
*…………….*

(this number must be ≥ 105)

The student is highly recommended to respect the precedence of 1<sup>st</sup> year on 2<sup>nd</sup> year exams, and of Major on Minor exams.

*The student must respect the precedence between exams described in*
http://compass2.di.unipi.it/didattica/win18/corsi/.


*Date*                                              *Signature*

*…………………………..*

*………………………………………………………………..*


**Reserved to the Master Program Board:**

Approved   ☐   date: ……………………………………………………

Not approved   ☐   date: ………………………………………….........

Observations: