**University "Politehnica" of Timisoara (Universitatea "Politehnica" Timisoara)**

**Faculty of Automation and Computers (Facultatea de Automatica si Calculatoare)**

Domain: **Computers and Information Technology (Domeniul: Calculatoare si Tehnologia Informatiei)**

Title and Type of Master Programme Studies:**Software Engineering, Development of Graduation Studies (Titlul si Tipul de Master: Ingineria Software, Aprofundarea in domeniul Studiilor de licenta)**

Type of education:**Day training  (Forma de invatamant: cu frecventa)**

Duration: **2 years (Durata studiilor: 2 ani)**

Domeniul fundamental de ierarhizare (DFI):**Stiinte ingineresti**

Ramura de stiinta (RSI): **Ingineria sistemelor, calculatoare si tehnologia informatiei**

Domeniul de ierarhizare (DII):**Ingineria sistemelor, calculatoare si tehnologia informatiei**

Domeniul de studii universitare de masterat**(DSU_M)**: **Calculatoare si tehnologia informatiei**

Cod DFI.Cod RSI.Cod DII.Cod DSU_M
20.60.10.10

**CURRICULA - MASTER SOFTWARE ENGINEERING**

| | Ist YEAR (2012/2013) | | | | IInd YEAR (2012/2013) | | | |
|---|---|---|---|---|---|---|---|---|
| | SEMESTER I | | | | SEMESTER II | | | SEMESTER III | SEMESTER IV |
| 1. | Optional 1 (choose from 9L2  or 11L2) | | | | Optional 1 (choose from 10L2) | | | Optional 1 (choose from 9L2  or 11L2) | Research activity and intership |
| | E | 9 | 28 | 0 | 28 | 0 | 49 | E 9 28 0 28 0 49 | E 9 28 0 28 0 49 | 15 | 63 | 70 |
| 2. | Optional 2 (choose from 9L2 or 11L2) | | | | Optional 2 (choose from 10L2) | | | Optional 2 (choose from 9L2  or 11L2) | Master Thesis Development and Defense |
| | E | 9 | 28 | 0 | 28 | 0 | 49 | E 9 28 0 28 0 49 | E 9 28 0 28 0 49 | 15 | 63 |
| 3. | Optional 3 (choose from 9L2 or 11L2) | | | | Optional 3 (choose from 10L2) | | | Optional 3 (choose from 9L2  or 11L2) | |
| | E | 9 | 28 | 0 | 28 | 0 | 49 | E 9 28 0 28 0 49 | E 9 28 0 28 0 49 | |
| 4. | Research topics in software engineering | | | | Introduction to research | | | Directed thesis research | |
| | D | 3 | 28 | 0 | 0 | 0 | 49 | D 3 28 0 0 0 49 | D 3 0 28 0 0 49 | |
| 5. | | | | | | | | | |
| 6. | | | | | | | | | |
| 7. | | | | | | | | | |
| 8. | 9 optional courses must be chosen (see the attached document containing optional courses): - at least 2 Breadth Coverage (BC) courses; - at least 2 Depth Coverage (DC) courses; - at least 1 Advanced Elective (AE). The remainder can be chosen among all courses, including those of other Master's programs in the department | | | | | | | | |

| total / semester | hours: 196 | VPI | 196 | hours: 196 | VPI | 196 | hours: 196 | VPI | 196 | hours: 126 | VPI | 70 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | credits: **30** | evaluations:3E, 1D | 4 | credits: **30** | evaluations:3E, 1D | 4 | credits: **30** | evaluations:3E, 1D | 4 | credits: **30** | evaluations:1P | 1 |

| total / week | hours: **14** | | | | hours: **14** | | | | hours: **14** | | | | hours: **9** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | of which: 8 | 0 | 6 | 0 | (c, s, l, p) | of which: 8 | 0 | 6 | 0 | (c, s, l, p) | of which: 6 | 2 | 6 | 0 | (c, s, l, p) | of which: 0 0 0 9 (c, s, l, p) |

# CURRICULA - MASTER SOFTWARE ENGINEERING

| | SEMESTER I | SEMESTER II | SEMESTER III | SEMESTER IV |
|---|---|---|---|---|
| 1. | Optional 9L2 - Advanced algorithms | Optional 10L2 - Advanced databases(*) | Optional 11L2 - Advanced software technologies | |
| | E 9 28 0 28 0 BC | E 9 28 0 28 0 BC | E 9 28 0 28 0 DC | |
| 2. | Optional 9L2 - Programming language design and analysis(*) | Optional 10L2 - Development of complex distributed applications (*) | Optional 11L2 - Advanced web programming (*) | |
| | E 9 28 0 28 0 BC | E 9 28 0 28 0 DC | E 9 28 0 28 0 DC | |
| 3. | Optional 9L2 - Distributed systems(*) | Optional 10L2 - Formal verification and program analysis | Optional 11L2 - Neural networks(*) | |
| | E 9 28 0 28 0 BC | E 9 28 0 28 0 DC | E 9 28 0 28 0 AE | |
| 4. | Optional 9L2 - Component based software engineering(*) | Optional 10L2 - Real time system design(*) | Optional 11L2 - Parallel algorithms(*) | |
| | E 9 28 0 28 0 DC | E 9 28 0 28 0 DC | E 9 28 0 28 0 AE | |
| 5. | Optional 9L2 - Compiler design (*) | Optional 10L2 - Machine learning and cognitive models (*) | Optional 11L2 - Graphics processing systems (*) | |
| | E 9 28 0 28 0 DC | E 9 28 0 28 0 AE | E 9 28 0 28 0 AE | |
| 6. | Optional 9L2 - Pattern recognition (*) | Optional 10L2 - Heuristic methods (*) | | |
| | E 9 28 0 28 0 AE | E 9 28 0 28 0 AE | | |
| 7. | | Optional 10L2 - Information technology project management | | |
| | | E 9 28 0 28 0 AE | | |
| 8. | | | | |
| | | | | |

**Legend**

**Tabel Structure**

| Course name | | | | | | |
|---|---|---|---|---|---|---|
| FE | nc | c | s | l | p | CF | VPI |

**Ex.**

| Research topics in software engineering | | | | | |
|---|---|---|---|---|---|
| D | 3 | 28 | 0 | 0 | 0 | 50 |

FE may be: D, E
c - course
D - distributed evaluation
E - exam
FE - evaluation forms
CF - formativ cathegory to which the course
    AE - Advances Elective
    BC -Breadth Coverage
    DC - Depth Coverage

l - laboratory
nc - number of credits
p - projects
s - seminar
VPI - number of hours necessary for individual study
pentru un semestru de 14 sapt plus 4 sapt de sesiune
(*) - discipline optionale activate in anul universitar 2012/2013

**RECTOR,**
**Prof.dr.ing. Viorel-Aurel SERBAN**