

# Master of Science in Software Engineering

## (Thesis Option / Non-thesis Option)

- **Requirements for obtaining the Degree:**

- ❖ **Thesis Option**

- Passing (24) study units of Courses
- Successful submission of a Research Proposal (1 study unit)
- Successful completion and defense of Master's Thesis (6 study units)

- ❖ **Non-thesis option**

- Passing (27) study units of Courses
- Successful submission of a Project Preparation Study (1 study unit)
- Successful Completion of the graduation project (4 study units)

- **Program General Structure:**

- ❖ **Thesis Option**

- The number of required study units is 31, including a thesis as follows:

Type of Courses	No. of Courses	No. of Units Required
Core courses	(6)	(18) Study units
Elective courses	(2)	(6) Study units
Thesis Proposal	(1)	(1) Study unit
Thesis	(1)	(6) Study units
Total	(10)	(31) Study units

- ❖ **Non-thesis Option**

- The number of required study units is 32 study units, including a graduation project as follows:

Type of Courses	No. of Courses	No. of Units Required
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<b>Core courses</b>	(6)	(18) Study units
<b>Elective courses</b>	(3)	(9) Study units
<b>Project Preparation Study</b>	(1)	(1) Study unit
<b>Graduation Project</b>	(1)	(4) Study units
<b>Total</b>	<b>(11)</b>	<b>(32) Study units</b>

- **Study Plan for the Program:**

**❖ Thesis Option**

- **First Level:**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE 540	Research Methods in Software Engineering	3 (3+0)	
2	SWE 541	Software Modeling	3 (3+0)	
3	SWE 543	Software Requirements Engineering	3 (3+0)	
<b>Total</b>			<b>(9) study Units</b>	

- **Second Level:**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE 542	Software Design and Architecture	3 (3+0)	SWE 541
2	SWE 545	Software Testing and Quality	3 (3+0)	SWE 541
3	SWE 546	Software Processes and Management	3 (3+0)	
<b>Total</b>			<b>(9) study Units</b>	

- **Third Level:**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE ....	Elective course (1)	3 (3+0)	
2	SWE ....	Elective course (2)	3 (3+0)	
3	SWE 596	Thesis Proposal Preparation	one study unit	(12) study units & SWE 540
<b>Total</b>			<b>(7) study Units</b>	

○ **Fourth Level:**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE 600	Thesis	(6) study units	SWE 596
<b>Total</b>			<b>(6) Units</b>	
			<b>(25) study units + (6) study units for thesis</b>	

○ **List of Elective Courses: the student must choose (6) study units from the following**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE 544	Distributed Software Systems	3 (3+0)	
2	SWE 547	Formal Software Specification and Verification	3 (3+0)	
3	SWE 549	Software Usability	3 (3+0)	
4	SWE 550	Selected Topics in Software Engineering	3 (3+0)	
5	SWE 551	Human-Computer Interaction	3 (3+0)	
6	SWE 552	Real-time and Embedded Systems	3 (3+0)	
7	SWE 553	Enterprise System Architecture	3 (3+0)	
8	SWE 555	Software Maintenance and Evolution	3 (3+0)	
9	SWE 556	Web Engineering	3 (3+0)	
10	SWE 557	Reuse-based Software Engineering	3 (3+0)	
11	SWE 558	Multimedia Software Systems	3 (3+0)	
12	SWE 561	Service-Oriented Computing	3 (3+0)	
13	SWE 562	Mobile Software Systems	3 (3+0)	
14	SWE 563	Dependable Software Systems	3 (3+0)	
15	SWE 564	Software Data Mining	3 (3+0)	
16	SWE 565	Emerging Technologies	3 (3+0)	

### **❖ Non-Thesis Option**

○ **First Level:**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE 540	Research Methods in Software Engineering	3 (3+0)	
2	SWE 541	Software Modeling	3 (3+0)	
3	SWE 543	Software Requirements Engineering	3 (3+0)	
<b>Total</b>			<b>(9) study Units</b>	

○ **Second Level:**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE 542	Software Design and Architecture	3 (3+0)	SWE 541
2	SWE 545	Software Testing and Quality	3 (3+0)	SWE 541
3	SWE 546	Software Processes and Management	3 (3+0)	
<b>Total</b>			<b>(9) study Units</b>	

○ **Third Level:**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE ....	Elective course (1)	3 (3+0)	
2	SWE ....	Elective course (2)	3 (3+0)	
3	SWE ....	Elective course (3)	3 (3+0)	
4	SWE 594	Graduation Project Preparation Study <sup>(1)</sup>	one study unit	(15) study units
<b>Total</b>			<b>(10) study Units</b>	

○ **Fourth Level:**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE 595	Graduation Project <sup>(2)</sup>	(4) study units	SWE 594
<b>Total</b>			<b>(4) Units</b>	
			<b>(32) study units</b>	

○ **List of Elective Courses: the student must choose (9) study units from the following**

#	Course Code	Name	No. of Study Units	Pre-requisite
1	SWE 544	Distributed Software Systems	3 (3+0)	

#	Course Code	Name	No. of Study Units	Pre-requisite
2	SWE 547	Formal Software Specification and Verification	3 (3+0)	
3	SWE 549	Software Usability	3 (3+0)	
4	SWE 550	Selected Topics in Software Engineering	3 (3+0)	
5	SWE 551	Human-Computer Interaction	3 (3+0)	
6	SWE 552	Real-time and Embedded Systems	3 (3+0)	
7	SWE 553	Enterprise System Architecture	3 (3+0)	
8	SWE 555	Software Maintenance and Evolution	3 (3+0)	
9	SWE 556	Web Engineering	3 (3+0)	
10	SWE 557	Reuse-based Software Engineering	3 (3+0)	
11	SWE 558	Multimedia Software Systems	3 (3+0)	
12	SWE 561	Service-Oriented Computing	3 (3+0)	
13	SWE 562	Mobile Software Systems	3 (3+0)	
14	SWE 563	Dependable Software Systems	3 (3+0)	
15	SWE 564	Software Data Mining	3 (3+0)	
16	SWE 565	Emerging Technologies	3 (3+0)	

