

Ministry of Education  
King Saud University (KSU)  
Deanship of Graduate Studies



College of College of Computer and  
Information Sciences  
Department of Software Engineering

# Master of Science in Software Engineering

(Thesis Option / Non-thesis Option)

**Academic Year**  
**1441 H / 2020 G**

- **Program General Structure:**

- ❖ **Thesis Option**

- Number of required units is (25) in addition to (6) units for the thesis as follows:

Type of Courses	No. of Courses	No. of Units Required
Core courses	(7)	(19) Study units
Elective courses	(2)	(6) Study units
Thesis	(1)	(6) Study units
<b>Total</b>	<b>(10)</b>	<b>(31) Study units</b>

- ❖ **Non-thesis Option**

- Number of units required is (32) study units including the graduation project as follows:

Type of Courses	No. of Courses	No. of Units Required
Core courses	(7)	(19) Study units
Elective courses	(3)	(9) Study units
Graduation Project	(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 at least (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)	

#	Course Code	Name	No. of Study Units	Pre-requisite
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>	

(1) Course grading: Pass/Fail; (2) This counts in the GPA

**List of Elective Courses: the student must choose at least (9) 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)	