

King Fahd University of petroleum and minerals
College of computer sciences and engineering
Computer engineering Department

COE COOP Program

Student Guide

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Introduction

The COE COOP program is a continuous period of 28 weeks spent in industry with the purpose of acquiring practical experience in different areas of Computer Engineering. During this period, a student is exposed to the profession of Computer Engineering by working in the field.

Students are required to submit progress reports during their COOP. After finishing the COOP period, they are required to submit a final report and give a presentation about their experience and the knowledge they gained during their work.

The COOP is a 9 credit hour course. Thus, the student who selects the COOP option will not need to complete the COE 485 (senior project design). Also, he will need to take 2 elective instead of 3 and 2 COE electives instead of 3. Total required credit hours for the COE B.S. degree with or without the COOP option are the same.

The COOP duration is 28 weeks (that is a semester and a summer). Two scenarios are possible:

- COE 351 + COE 352 (Spring + Summer)
- COE 350 + COE 351 (Summer + Fall)

Note that COOP can not be taken before the student finish at least 85 credit hours. Also, it should not be the last semester for the student in the university. Thus, it is recommended to start your COOP the summer following the fourth (junior) year. You will need to spend the summer and the first semester of the fifth (senior) year. (See Appendix: COE Curriculum with COOP). You will have one more semester to finish your courses and complete COOP requirements.

Eligibility and Prerequisites

A COE student is eligible for COOP program if he satisfies all the following:

1. Have completed **85** credit-hours or more of his study
2. Earned Cumulative and Major GPA of **2.0** or above
3. Have passed the following courses:
 - a. XXX 1xx All required level 1 courses
 - b. COE 2xx All required level 2 COE courses
 - c. ICS 2xx All required level 2 ICS courses
 - d. COE 305 Microcomputer System Design
 - e. COE 344 Computer Networks
 - f. COE 390 Seminar
 - g. ENGL 214 Technical Report Writing
 - h. ICS 334 Database Systems or
ICS 413 Software Engineering

Student Performance Evaluation

COOP students performance will be evaluated through the following:

- **Company evaluation:** Every student will be evaluated during his COOP period by his supervisors in the company. This evaluation will be forwarded to the COOP coordinator through the University COOP office.
- **Progress reports:** Each student must submit four progress reports (a report *every 6 weeks* - Actual dates will be posted on WebCT). The report should be submitted through WebCT and by email to his COOP advisor. Progress reports will be evaluated by the student COOP advisor and grades will be posted on WebCT. A hard copy of all reports should be signed by the company supervisor and stamped by company official stamp. These hardcopies can be submitted to the COOP coordinator after the student finish his COOP and return to KFUPM.
- **Final report:** Each student must submit a final report describing his COOP work. Students should consult their COOP advisors regarding the contents of the report. The final report **MUST BE SUBMITTED** before the end of the *fifth week* of the semester immediately following the COOP training period. A hard copy of the report should be submitted to the COOP advisor. The advisor will evaluate the COOP final report and may give some corrections and request some adjustment to the report.
- **Summary report:** Each student will be assigned an examining committee of COE faculty. Before the end of the *sixth week* of the semester immediately following the COOP training period, each student must submit his *summary report* to WebCT and contact his examining committee members to be sure that they did receive the report.
- **Presentation:** Every student must give a presentation on his COOP training to the examining committee. Presentations will be held during the *eighth week* of the semester.

The reports should follow the format described in the Appendix.

Grading

The COOP training final grade will be determined as follows:

Company evaluation	20 %	(10% each)
Progress reports	20 %	(5% each)
Final report	25 %	
Summary report	10 %	
Presentation	25 %	

Points will be deducted for late submission

Letter Grades

Score	Letter Grade	Points	Interpretation
95 – 100	A+	4.00	Exceptional
90 – 95	A	3.75	Excellent
85 – 90	B+	3.50	Superior
80 – 85	B	3.00	Very Good
75 – 80	C+	2.50	Above Average
70 – 75	C	2.00	Good
65 – 70	D+	1.50	High Pass
60 – 65	D	1.00	Pass
Less than 60	F	Zero	Fail
Not Complete	IC		Incomplete

Contact Information

Mailing address

COOP Coordinator,
Computer Engineering Department,
KFUPM P.O. Box 5065
Dhahran 31261,
Saudi Arabia.

Phone: 860 2110

Fax: 860 3059

Before COOP

Students planning to take COOP should complete the following steps during the **semester just before their COOP:**

1. See your academic advisor to discuss with him what is better for you COOP (COE 350) or summer training (COE 399). Your advisor will need to fill the COOP Checklist (See Appendix) and indicate his opinion to the COOP coordinator.
(Better to be done during registration period of the semester).

2. Bring your current degree audit and COOP checklist to the COOP coordinator. On approval, you need to fill the COOP Registration Form and submit it to the COOP coordinator. The COOP Coordinator will then forward the form to the COOP program office.
(Should be done between the 2nd and the 6th week of the semester)

3. Contact COOP office to get list of COOP offers. You will need to fill COOP Company Preference Form. In this form you will indicate three choices and the COOP office will direct your name to one of three companies. The COOP office then will list the students' names together with the companies they assigned for.

If you are planning to do the COOP in company that is not in the COOP program list you need to arrange with the company to contact the COOP program office to provide company contact information. You will need to provide COOP office with COOP Opportunity Form.

All COOP students will need to fill Contact Guide Form and COOP Obligation Form and submit it to the COOP program office.

(Should be done between the 6th and the 12th week of the semester)

4. Contact your COOP advisor (to be assigned by the COOP coordinator) and discuss with him the COOP program and best way of communication during the COOP.
(Should be done before the 15th week of the semester)

5. If for any reason you decided not to continue the COOP, you will need to see the COOP coordinator to fill COOP Drop Form.

NOTE: It is the responsibility of the student with the help of his academic advisor to make sure that the COOP work must be completed *before* the student's last semester in the University. All COOP prerequisite courses have to be completed at least two semesters prior to their graduation.

During COOP

During the COOP, students need to provide several documents in a timely fashion. Students need to be sure that your WebCT account is working before the COOP starts. During COOP, they need to check WebCT regularly for any announcements.

- During the first two weeks COOP Company should provide you with COOP plan for the 28 weeks. Ask the company to prepare the plan and mail it to the COOP coordinator. The plan should be signed and stamped by the company. An e-copy of the plan should be submitted to WebCT and by email to your COOP advisor.
- You will need to submit 4 progress reports, one every 6 weeks (by end of weeks 6, 12, 18 & 24). Submit the COOP Progress reports to WebCT and by email to your COOP advisor.
- By the end of the 8th and the 28th weeks, your supervisor in the COOP Company will need to fill Company Evaluation Form and mail it to the COOP program office. You need to provide the supervisor with the blank form (Available through COOP program office webpage).
- You will need to submit a detailed final report about your work in the company. Thus, it is recommended to start writing it from the first week so that you still remember all the details.

After COOP

After finishing the COOP, students need to do the following:

1. Prepare a draft copy of your final report then contact you COOP advisor and discuss with him your draft final report.
(Better to be done during the first 2 weeks of the semester).
2. Submit the final report incorporating the advisor comments to WebCT. Also, submit a hardcopy to the COOP advisor.
(Should be done by the end of the 5th week).
3. Prepare summary report and submit to WebCT. Contact your Examining committee (to be assigned by the COOP coordinator) to be sure that they did receive a copy of your COOP summary report.
(Should be done by the end of the 6th week).
4. Prepare a presentation describing your COOP and submit the PPT file to WebCT. Your presentation to the examining committee will be 30min + 10min Q&A. Presentations will be held during the 8th week of the semester.
(Should be done by the end of the 7th week).
5. Collect any comments from your advisor, examining committee and the COOP coordinator and make required correction to your final report, summary report and presentations. Submit the COOP Full Report to WebCT and as a bonded hardcopy to the COOP coordinator.
(Should be done by the end of the 12th week).

Summary of Important Training Events

period	Week	Task
Semester just before the COOP	1	See your academic advisor
	2-6	See COOP coordinator to register for COOP
	6-12	Contact COOP program office to select company for the COOP.
	14-15	Contact your COOP advisor
COOP Period	1-2	Ask the company to prepare a COOP plan for the 28 weeks.
	3	Submit an official plan to the COOP coordinator by mail & to WebCT.
	6	Submit the 1 st COOP Progress report to WebCT and by email to your COOP advisor
	8	1 st Company evaluation form to be mailed to the COOP program office.
	12	Submit the 2 nd COOP Progress report to WebCT and by email to your COOP advisor
	18	Submit the 3 rd COOP Progress report to WebCT and by email to your COOP advisor
	24	Submit the 4 th COOP Progress report to WebCT and by email to your COOP advisor
	28	2 nd Company evaluation form to be mailed to the COOP program office.
Semester just after COOP	1-2	Prepare a draft copy of your final report then contact you COOP advisor.
	2-5	Submit the final report to WebCT and a hardcopy to the COOP advisor
	6	Prepare summary report and submit to WebCT. Contact your Examining committee
	7	Prepare a presentation describing your COOP and submit the PPT file to WebCT.
	8	COOP Presentations. Your presentation will be 30 min + 10 min Q&A.
	8-12	Submit the Full COOP Report to WebCT and a hardcopy to the COOP coordinator.

Tips for COE COOP Students

1. Remember that your performance in the COOP period affects both the image of your department and the future prospects of jobs of COE graduates. You are an ambassador of the KFUPM COE department. Your grade in the COOP WILL CERTAINLY reflect how well or bad you have promoted the professionalism, ethics and high quality education you received at the department.
2. Make sure that you are provided with a COOP training schedule.
3. Make sure that your training schedule is not comprised mainly of clerical jobs.
4. Make sure that your training schedule is related as closely as possible to your field.
5. Be alert and observe how the department to which you belong actually works.
6. Ask questions as to why things are done the way they are.
7. Make sure, before the end of your COOP program, that you have collected enough data, which will enable you to write an analytical COOP report.
8. Keep an accurate record of your activities on a daily/weekly basis. Summarize work done, objectives achieved, experience gained, problems faced, solutions found on a week by week basis. The collection of these records at the end of the training period will be the core of your COOP training report. DO NOT WAIT till the training period is over to start writing your report. You should not rely on your memory to generate the report.
9. Whenever you consult a reference during training, write down complete information about it (author, publisher, date, etc). If the reference is a special document or a technical report, you should either try to get a copy or make copies of most pertinent information. Since this is not always possible, it should be carried out as the situation permits. The student is reminded that the information, documents, etc. gained from COOP training is not just for the purpose of the report. It is for his own future reference.
10. Take the initiative to gain useful experience during the COOP program. Do not be passive.

Appendixes

COE Curriculum with COOP

COURSE	TITLE	LT	LB	CR	COURSE	TITLE	LT	LB	CR
First Year (Preparatory)									
MATH 001	Preparatory Math I	3	1	4	MATH 002	Preparatory Math II	3	1	4
ENGL 001	Preparatory English I	15	5	8	ENGL 002	Prep. English II	15	5	8
PE 001	Prep. Physical Educ. I	0	2	1	PE 002	Prep. Physical Educ. II	0	2	1
ME 001	Prep. Shop I	0	2	1	ME 002	Prep. Shop II	0	2	1
		18	10	14			18	10	14

Total credit hours required in Preparatory Program: 28

Second Year (Freshman)									
MATH 101	Calculus I	4	0	4	MATH 102	Calculus II	4	0	4
PHYS 101	General Physics I	3	3	4	PHYS 102	General Physics II	3	3	4
CHEM 101	General Chemistry I	3	3	4	ICS 102	Introd. to Computing	2	3	3
ENGL 101	English Composition I	3	0	3	ENGL 102	English Composition II	3	0	3
IAS 111	Belief and its Conseq.	2	0	2	IAS 101	Practical Grammar	2	0	2
		15	6	17	PE 101	Physical Education I	0	2	1
		14	8	17			14	8	17

Third Year (Sophomore)									
COE 200	Fundam. of Comp. Eng.	3	3	4	COE 205	Comp. Org. & Ass. Lang.	3	3	4
EE 201	Electric Circuits I	3	3	4	EE 203	Electronics I	3	3	4
ICS 201	Introduction to CS	3	3	4	ICS 202	Data Structures	3	0	3
MATH 201	Calculus III	3	0	3	ICS 252	Discrete Structures	3	0	3
IAS 211	Ethics in Islam	2	0	2	MATH 260	Linear Alg. & Diff. Equ.	3	0	3
		14	9	17	PE 102	Physical Education II	0	2	1
		15	8	18			15	8	18

Fourth Year (Junior)									
COE 305	Microcomp. Syst. Design	3	3	4	COE 308	Computer Architecture	3	0	3
STAT 319	Prob. & Stat. for Eng. & Sc.	2	3	3	COE 442	Computer Networks	3	3	4
COE 342	Data & Computer Comm.	3	0	3	COE 390	Seminar	1	0	1
COE 360	Principles of VLSI Desg.	3	0	3	ICS xxx	ICS Elective	3	0	3
ENGL 214	Tech. Report Writing	3	0	3	XXX xxx	Elective	3	0	3
IAS 201	Objective Writing	2	0	2	IAS 311	Islamic Shareah	2	0	2
		16	6	18	IAS 301	Literary Styles	2	0	2
		17	3	18			17	3	18

Summer Session										
Fifth Year (Senior)										
COE 351	Cooperative Work (cont.)	0	0	9	COE 350	Cooperative Work	0	0	0	
						COE 400	System Design Lab.	1	6	3
						COE 4xx	COE Elective	3	0	3
						COE 4xx	COE Elective	3	0	3
						ICS 431	Operation Systems	3	3	4
						XXX xxx	Elective	3	0	3
						IAS 4xx	IAS Elective	2	0	2
		0	0	9			15	9	18	

Total credit hours required in Degree Program with Coop: 132

COE COOP Checklist

To be filled by the student academic advisor

Student Name _____

ID

--	--	--	--	--	--

GPA

Cumulative

Major

Credit hours

Completed

Remaining

Graduation term

With COOP

Without COOP

Completed all required level 1 courses

Yes

No

Completed all required level 2 COE courses

Yes

No

Completed all required level 2 ICS courses

Yes

No

Course	Term	Grade
COE 305		
COE 344		
COE 390		
Engl 214		
ICS 334		
ICS 431		

Recommend student to go for COOP

Yes

No

Advisor Name _____

Signature _____

Cover page for all COOP reports

The following MUST appear in the cover page of all COOP reports (in order):

King Fahd University of petroleum and minerals

College of computer sciences and engineering

Computer engineering Department

COOP ????? Report

Company name

Student name

Student ID

COOP Serial number (current term-ID: example 022-234567)

Advisor Name

Coordinator Name

Date <month, Year>

COOP Progress Report Format

The reports must be brief (should not exceed 5-pages other than the cover page).

MUST be SIGNED by Company Supervisor

MUST be submitted on Time

The following MUST be addressed in each progress report:

- Cover page
- Schedule: Table showing dates, duration and status of various tasks for :
 - a. The period from your joining the COOP company until current
 - b. The future weeks until the end of COOP.
- Description of the accomplished work during the report period
 - a. Tasks accomplished
 - b. Approach taken to accomplish tasks
 - c. Experience gained
 - d. Techniques learned
- Description of the unaccomplished work
 - a. Partially accomplished and unaccomplished tasks (schedule slip), Explain
 - b. Problems faced
 - c. Solutions or attempted solutions
- Work Plan for the Coming Period

COOP FINAL REPORT FORMAT

The following MUST appear in your COOP report.

- Cover Page
- Abstract,
- Acknowledgments
- Table of Contents, List of Tables, List of Figures
- **Part One: Work Place**
 - a. Company (Max of 5 pages): Organizational Structure, Main product, Market, Size
 - b. Department (Max of 5 pages): Structure, Role/function of the department.
- **Part Two: the work**
 - a. Objective or statement of the problem.
 - b. List of Project/Projects assigned to you with Brief description
 - c. For each task state the following
 - i. Theoretical background (literature review, related theoretical areas etc).
 - ii. Approach (This includes partitioning of the problem into tasks and subtasks, scheduling of these tasks over the training period, determining milestones to monitor progress, needed tools and equipment, and expected results).
 - iii. Data collection and analysis (if applicable).
 - iv. Model (if applicable).
 - v. Problems faced
 - vi. Solutions or attempted solutions
 - vii. Experience gained
 - viii. Techniques learned
 - ix. Tasks accomplished, partially accomplished or unaccomplished tasks,
 - x. Analysis and Discussion of results versus the expected ones.
- **Part three:**
 - a. Overall experience gained
 - b. Relationship to COE courses and your background as a Computer Engineer.
 - c. Conclusions and Recommendations
- References
- Appendixes
- Letter from the company (if any): appreciation, offer, certificates etc.

COOP Summary Report format

The summary must be in brief bullet items.

The summary should not exceed 10 pages including the cover page and the appendix.

The following MUST be addressed in the summary report.

- Cover page
- Introduction: Briefly describe
 - a. The company
 - b. The department you worked on
 - c. The task assigned to you
- Description of the work
 - a. Tasks accomplished
 - b. Partially accomplished and unaccomplished tasks, Explain
 - c. Problems faced
 - d. Solutions or attempted solutions
 - e. Experience gained
 - f. Techniques learned
- Relationship to COE course offerings
- Recommendations
- Appendix: one page table showing the 28 week and a brief description of the task done during that week

Week	Task
1	
⋮	⋮
28	

Presentation Guidelines & Format

Be brief and to the point

The following MUST be addressed in your presentation:

- Presentation Outline
- Introduction
 - i. Identify yourself,
 - ii. training company,
 - iii. Training Department,
 - iv. Training area(s)
- Work description
 - a. Training Program,
 - b. Weekly Breakdown
 - i. Tasks assigned to you during each of the 28-weeks
 - ii. Identify each task undertaken and state whether it was fully accomplished, partially accomplished, or not accomplished.
 - iii. Your role in each task
- Gained Benefits
 - a. Experience gained,
 - b. Techniques learned,
 - c. Problems faced,
 - d. Solutions or attempted solutions.)
- Conclusion & Recommendations
 - a. Overall evaluation of the training period,
 - b. Evaluation of the training organization,
 - c. Recommendations for future trainees.

COOP FULL REPORT FORMAT

The following MUST appear in your COOP full report (in order)

- Cover Page
- COOP plan approved by the company
- COOP progress reports approved by the supervisor
- COOP final report (updated)
- COOP summary report (updated)
- COOP presentation (updated)