



PROGRAM SHEET

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

(BSCS)

OFFICE OF THE REGISTRAR
AL AKHAWAYN UNIVERSITY
ENROLLMENT SERVICES

UNIVERSITY CORE CURRICULUM**52 – 53 SCH**

SSK 1201	Study Skills I: Skills for Learning and Research	2 SCH
SSK 1202	Study Skills II : Critical Reading and Problem Solving (<i>Pre-requisite: SSK 1201, SSK 1203; co-requisites: AWT 1002 and ARD1002</i>)	2 SCH
SSK 1203	Computer Skills for Independent Learning	2 SCH
SSK 1204	Applied Independent Learning Methods (<i>Pre-requisite: SSK 1201; SSK 1203; co-requisites AWT 1002 and ARD1002</i>)	2 SCH
SSK 1205	Inter-personal skills and Social interaction in an Academic Context (<i>co-requisite: ALS 1002</i>)	2 SCH
ARB 13xx series	Appropriate placement to be determined by student's entry level	3 SCH
FRN 12xx series	Appropriate placement to be determined by student's entry level	2 SCH
FRN or ARB	Appropriate placement to be determined by student's entry level	2-3 SCH
BIO 1401 or BIO 1402	Principles of Biology , or Environmental Biology,	4 SCH
CHE 1401	General Chemistry I	4 SCH
CSC 1401	Computer Programming	4 SCH
COM 1301	Communication through Speaking (<i>Pre-requisite : ENG 1301, SSK1205 and SSK1202</i>)	3 SCH
ENG 1301	English Composition I (<i>Pre-requisite: Pass all Language Center modules</i>)	3 SCH
ENG 1302	English Composition II (<i>Pre-requisite : ENG 1301, SSK1202 and SSK1204</i>)	3 SCH
HIS 1301 or HIS 1302 or PSC2301	History of the Arab World (<i>Pre-requisite : ENG 1301 and SSK1202</i>) or Contemporary World History or Comparative Political System (<i>Pre-requisite : ENG 1302</i>)	3 SCH
HUM 3301 or HUM 3302 or HUM 3306 or LIT 2301, or PHI 2301	Introduction to Islamic Art and Architecture or Introduction to the Study of Islamic Civilization or Comparative Religion (<i>Pre-requisite: Junior standing</i>), Major Works in World Literature (<i>Pre-requisite: Sophomore classification and ENG 1302</i>) or Philosophical Thought (<i>Pre-requisite: ENG 1302</i>)	3 SCH
MTH 1304	Discrete Mathematics for Engineers	3 SCH
PED 1201	Physical Education: Fitness for Living	2 SCH
PHY 1401	Physics I (<i>Pre-requisite: MTH 1303</i>)	4 SCH
SOC1301 or PSY 1301	Introduction to Sociology, or Introduction to Psychology	3 SCH

SCHOOL CORE**26 SCH**

EGR 4300	Internship (<i>Pre-requisite : Senior standing</i>)	3 SCH
EGR 4402	Capstone Design (<i>To be taken during the last regular semester</i>)	4 SCH
EGR 2302	Engineering Economics (<i>Pre-requisite : MTH 1303</i>)	3 SCH
EGR 3331	Digital Design (<i>Pre-or- co-requisite : PHY 1402</i>)	3 SCH
MTH1303	Differencial & Integral Calculus	3 SCH
MTH 2301	Multivariable Calculus (<i>Pre-requisite : MTH 1303</i>)	3 SCH
MTH 3301	Probability & Statistics fo Engineers (<i>Pre-requisite : MTH 2301</i>)	3 SCH
PHY 1402	Physics II (<i>Pre-requisite : PHY 1401</i>)	4 SCH

COMPUTER SCIENCE MAJOR**36 SCH****REQUIRED COURSES:****27 SCH**

CSC 2302	Data Structures (<i>Pre-requisite : CSC 1401; co-requisite MTH 1304</i>)	3 SCH
CSC 2303	Advanced Programming/Object-Oriented programming (<i>Pre-requisite : CSC 2302</i>)	3 SCH
CSC 2304	Computer Architecture (<i>Pre-requisite : CSC 2302 and EG R3331</i>)	3 SCH
CSC 3315	Languages and Compilers (<i>Pre-requisite : CSC 2303</i>)	3 SCH
CSC 3323	Algorithm Analysis (<i>Pre-requisite : CSC 2303</i>)	3 SCH
CSC 3324	Software Engineering I (<i>Pre-requisite : CSC 2303</i>)	3 SCH
CSC 3326	Database Systems (<i>Pre-requisite : CSC 3324</i>)	3 SCH
CSC 3351	Operating Systems (<i>Pre-requisite : CSC 2303 and CSC 2304</i>)	3 SCH
CSC 3352	Computer Communication (<i>Pre-requisite : CSC 2303 and CSC 2304</i>)	3 SCH

ADVANCED COURSES: (SELECT 3 ONLY)**9 SCH**

CSC 3309	Artificial Intelligence (<i>Pre-requisite : CSC 2303 and Junior Standing</i>)	3 SCH
CSC 3325	Software Engineering II (<i>Pre-requisite : CSC 3324</i>)	3 SCH
CSC 3327	Internet Technologies (<i>Pre-requisite : CSC 3326</i>)	3 SCH
CSC 3328	Embedded Systems (<i>Pre-requisite : CSC 3351</i>)	3 SCH
CSC 3341	Computer Graphics (<i>Pre-requisite : CSC 2303 and Junior Standing</i>)	3 SCH
CSC 3353	Computer Networks (<i>Pre-requisite : CSC 3352</i>)	3 SCH

CSC 3354	Distributed Systems (<i>Pre-requisite : CSC 3351 and CSC 3352</i>)	3 SCH
CSC 3355	Computer Security (<i>Pre-requisite : CSC 2303 and senior standing</i>)	3 SCH

MINORS	15-18 SCH
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GENERAL ENGINEERING

Required courses: **8 SCH**

CHE 1402	General Chemistry II (<i>Pre-requisite : CHE 1401</i>)	4 SCH
EGR 2402	Electrical Circuits (<i>Pre-requisite :PHY 1402</i>)	4 SCH
In addition, select 3 courses of the following:		9-10 SCH
EGR 3304	Materials Science (<i>Pre-requisite : CHE 1402 and PHY 1402</i>)	3 SCH
EGR 3306	Engineering Instrumentation (<i>Pre-requisite : EGR 2402</i>)	3 SCH
EGR 3308	Thermal Engineering (<i>Pre-requisite : PHY 1402</i>)	3 SCH
EGR 3402	Statics and Dynamics (<i>Pre-requisite : MTH 2301 and PHY 1401</i>)	4 SCH

BUSINESS ADMINISTRATION

Required Courses : **9 SCH**

ACC 2301	Accounting Principles I I (<i>Pre-requisite: MTH 1303, or MTH 1304</i>)	3 SCH
Fin 3301	Business and Corporate Finance (<i>Pre-requisite : ACC 2302 and ECO 2302; or ACC 2301 and EGR 2302</i>)	3 SCH
Mgt 3301	Principles of Management (<i>Pre-requisite : ACC 2302 and ECO 2302; or ACC 2301 and EGR 2302</i>)	3 SCH

In addition, students must choose any two out of the following courses: **6 SCH**

ACC 2302	Accounting Principles II(<i>Pre-requisite: ACC 2301</i>)	3 SCH
Mgt 3303	Operations Management (<i>Pre-requisite: MGT 3301 and either GBU 3401 or MTH 3301</i>)	3 SCH
GBU4308	Net-Economics and E-Business (<i>Pre-requisite: Senior standing</i>)	3 SCH
GBU 3401	Advanced Quantitative Methods in Business(<i>Pre-requisite : junior Standing and GBU 3301; or MTH 3301</i>)	3 SCH
MGT 3302	Entrepreneurship (<i>Pre-requisite : MGT 3301 & MKT 3301 & FIN 3301</i>)	3 SCH
Mkt 3301	Principles of Marketing(<i>Pre-requisite : ACC 2301 and EGR 2302</i>)	3 SCH
Mkt 4304	Marketing Research(<i>Pre-requisite : MKT 3301 and one of the following: GBU 3401, SSC 2401, MTH3301</i>)	3 SCH
MIS 3302	Managing the Information Resource (<i>Pre-requisite : MGT 3301 and MIS 3301 or Special Permission</i>)	3 SCH
MKT4305	Marketing Management (<i>Pre-requisite : MGT 3301 & MKT 3302 & MKT 3303</i>)	3 SCH
MGT 4311	E-Marketing (<i>Pre-requisite : MIS 3301 or Special Permission</i>)	3 SCH

INTERNATIONAL STUDIES

Required Courses : **3 SCH**

In addition, select at nleast 3 courses from the following: **9 SCH**

INS 3301	Theories & Models of International Relations (<i>Pre-requisite : PSC 2301</i>)	3 SCH
ECO 2310*	Introduction to International Economics	3 SCH
GEO 1301	Introduction to Geography	3 SCH
HIS 3301	Twentieth Century International History (<i>Pre-requisite : HIS 1301 or HIS 2301</i>)	3 SCH
INS 3302	International Law & Organizations (<i>Pre-requisite : INS 3301</i>)	3 SCH

In addition to two (2) other courses from within the International Studies Porgram	6 SCH
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Note: *Note: ECO 2310 is only open to non Business Administration students.

HUMAN RESOURCE DEVELOPMENT

Required courses: **9 SCH**

HRD 2300	Introduction to Human Resources Development	3 SCH
HRD 2301 OR HRD 3302	Business Environment and Ethics for HRD or Ethics in Professional Contexts (<i>Pre-requisite: Junior Classification</i>)	3 SCH
HRD 3301	Human Capital Management	3 SCH

In addition students must complete any 3 courses from the following: **9 SCH**

HRD 3303	Training & Development (<i>Pre-requisite: HRD2300</i>)	3 SCH
HRD 3304	Strategic HRD <i>Pre-requisites: HRD 2300 and 3301</i>	3 SCH
HRD 3305	Issues in the Human and Social Development (<i>Pre-requisites: HRD 2300</i>)	3 SCH

HRD 3399	Special Topics in HRD (<i>Pre-requisite: Junior Classification</i>)	3 SCH
HRD 4301	Program and Project Management (<i>Pre-requisite: HRD 2300</i>)	3 SCH
HRD 4302	Needs Assessment and Org Effectiveness (<i>Pre-requisite: HRD 2300 and 3301</i>)	3 SCH
HRD 4303	Leadership and Management Development (<i>Pre-requisites: PSY 3302 or MGT4304</i>)	3 SCH
HRD 4304	Consulting for HRD(<i>Pre-requisites: HRD 2300 and HRD 3302 or permission of the instructor</i>)	3 SCH
HRD 4305	Human Resources Development in Public Administration(<i>Pre-requisites: HRD 2300 and HRD 3301</i>)	3 SCH
HRD 4306	Organizational Development and Change(<i> Pre-requisites: HRD 2300 and HRD 3301</i>)	3 SCH

COMMUNICATION STUDIES

Students selecting the Minor in Communication Studies must complete 18 SCH from the following courses. Please note the COM 2301 Professional Communication Skills is a prerequisite for most Communication courses and thus **non-SHSS** students with a Minor in Communication Studies must take COM 2301 as an elective in their program.

Required Courses:

12 SCH

COM 1302	Introduction to Mass Communication (<i>Pre-requisite: Ssk 1202 & ENG 1301</i>)	3 SCH
COM 1303	Introduction to Human Communication (<i>ENG1301</i>)	3 SCH
COM 2303 or COM 3321	International Communication (<i>Pre-requisite: com1302 or special permission Mass Media and Society (com1302&soc1301 or ssc1310)</i>)	3 SCH
COM 3325 or COM 3310	Technical Communication (<i>Pre-requisite: COM 1303, COM 2301 and COM 2305 or special permission</i>) Public Relations Communication (<i>Pre-requisite:COM 1302 and COM 2305</i>)	3 SCH

In addition, students must complete any 2 of the following courses:

6 SCH

COM 2303	International Communication(<i>Pre-requisite: COM 1302 or special permission</i>)	3 SCH
COM 2304	Introduction to Video and Film Production(<i>Pre-requisites: Com 1302 and COM 2305 or special permission</i>)	3 SCH
COM 2305	Computer Applications for Communication Studies (<i>Pre-requisite: SSK 1203</i>)	3 SCH
COM 3301	Public Relations Communication (<i>Pre-requisite : COM 1302 & COM 2305</i>)	3 SCH
COM 3310	Promotional Communication(<i> Pre-requisite: COM 1302 and COM 2305</i>)	3 SCH
COM 3320	Communication Theories (<i>Pre-requisite COM 1302 and COM 1303</i>)	3 SCH
COM 3321	Mass Media and Society(<i>Pre-requisite: COM 1302 and SOC 1301 or SSC 1310</i>)	3 SCH
COM 3322	Writing for the Media (in English, French or Arabic) (<i>Pre-requisite ENG 1302, COM 1302 and appropriate language skills as determined by instructor</i>)	3 SCH
COM 3325	Technical Communication (<i>Pre-requisite: COM 1303, COM 2301 and COM 2305 or special permission</i>)	3 SCH
COM 3326	Visual Communication(<i> Pre-requisite: COM 1301 and COM 2305 or special permission</i>)	3 SCH
COM 3327	Persuasion (<i>Pre-requisite: Junior classification and COM 1303</i>)	3 SCH
COM 3328	Mass Media Text Analysis (<i>Pre-requisite: COM 3320</i>)	3 SCH
COM 3329	Screen Studies (<i>Pre-requisite: Junior classification, COM 1302</i>)	3 SCH
COM 3330	Organizational Communication (<i>Pre-requisite: Junior classification, COM 1303 & COM 2301</i>)	3 SCH
COM 3399	Special Topics in Communication (<i>Pre-requisite: Junior classification</i>)	3 SCH
COM 4302	Advanced Video and Film Production (<i>Pre-requisite: Junior classification and COM 2304</i>)	3 SCH
COM 4304	Media and Development (<i>Pre-requisites: Senior Classification, COM 3321, and either COM 2304 or COM 3310</i>)	3 SCH

INTERNATIONAL STUDIES

Required Courses:

3 SCH

INS 3301	Theories & Models of International Relations (<i>Pre-requisite : PSC 2301</i>)	3 SCH
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In addition, students must complete any 3 of the following courses:

9 SCH

ECO 2310*	Introduction to International Economics	3 SCH
GEO 1301	Introduction to Geography	3 SCH
HIS 3301	Twentieth Century International History (<i>Pre-requisite : HIS 1301 or HIS 2301</i>)	3 SCH
INS 3302	International Law & Organizations (<i>Pre-requisite : INS 3301</i>)	3 SCH

In addition to two other courses from within the International Studies Program

6 SCH

Note: *Note: ECO 2310 is only open to non Business Administration students.

Minors may require students to use elective courses to satisfy minor requirements beyond 15 SCH (including prerequisites for minor courses).

BSCS students may receive a second minor, in mathematics, by completing a total of 5 courses selected from the list: MTH 1304, 1303, 2301, 2303, 2304, 3301.

ELECTIVES

9 SCH

Three electives will be chosen from university undergraduate courses in collaboration with, and with approval of, the academic advisor and academic coordinator. The following courses are not acceptable as BSCSC electives: CHE1400, CSC1400, MTH1399, GBU 3301, MTH1301, and PHY1400. Graduate courses in the major may be taken as electives after special permission from the Dean.

TOTAL

138-139 SCH

NB/ The combined BS/MS program allows qualified CSC students to pass directly from the BS to the MS in Computer Science/ Computer Networks/ Software Engineering (for more details refer to the catalog).