

**FACULTY OF ARCHITECTURE AND ENGINEERING**  
**DEPARTMENT OF COMPUTER ENGINEERING**  
**3 (THREE) YEARS BACHELOR DIPLOMA IN COMPUTER ENGINEERING**

**First Year**

**First Semester**

COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka Credits	Semestral Lecture and studying hours					ECTS	
Code	Course Name			Theory	Pract.	Lab.	Total		Lect.	Pract.	Lab.	Site W.	Other		Total
CEN 105	Linear Algebra	A	Compulsory	3	0	0	3	3	48	0	0	77	0	125	5
CEN 109	Introduction to Algorithms & Programming	B	Compulsory	3	0	2	5	4	48	0	32	95	0	175	7
MTH 101	Calculus I	A	Compulsory	3	2	0	5	4	48	32	0	95	0	175	7
PHY 101	General Physics I	A	Compulsory	3	2	0	5	4	48	32	0	95	0	175	7
ENG 103	Development of R. & W. Skills In English I	E	Compulsory	3	0	0	3	3	48	0	0	52	0	100	4
Semestral Total				15	4	2	21	18	240	64	32	414	0	750	30

**First Year**

**Second Semester**

COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka Credits	Semestral Course and studying hours					ECTS	
Code	Course Name			Theory	Pract.	Lab.	Total		Lect.	Pract.	Lab.	Site W.	Other		Total
MTH 106	Discrete Mathematics	A	Compulsory	3	0	0	3	3	48	0	0	77	0	125	5
CEN 110	C Programming	B	Compulsory	3	0	2	5	4	48	0	32	95	0	175	7
MTH 102	Calculus II	A	Compulsory	3	2	0	5	4	48	32	0	95	0	175	7
PHY 104	General Physics II	A	Compulsory	3	2	0	5	4	48	32	0	95	0	175	7
ENG 104	Development of R. & W. Skills In English II	E	Compulsory	3	0	0	3	3	48	0	0	52	0	100	4
Semestral Total				15	4	2	21	18	240	64	32	414	0	750	30

**Second Year**

**Third Semester**

COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka Credits	Semestral Lecture and studying hours					ECTS	
Code	Course Name			Theory	Pract.	Lab.	Total		Lect.	Pract.	Lab.	Site W.	Other		Total
CEN 215	Object Oriented Programming	B	Compulsory	3	0	2	5	4	48	0	32	95	0	175	7
CEN 217	Electrical & Electronic Circuits	C	Compulsory	3	0	2	5	4	48	0	32	95	0	175	7
CEN 219	Computer Organization	B	Compulsory	2	2	0	4	3	32	32	0	86	0	150	6
MTH 207	Fundamental of Probability	C	Compulsory	2	2	0	4	3	32	32	0	86	0	150	6
	Non Technical Elective	D	Elective	3	0	0	3	3	48	0	0	52	0	100	4
Semestral Total				13	4	4	21	17	208	64	64	414	0	750	30

## Second Year

### Fourth Semester

COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka Credits	Semestral Course and studying hours						ECTS
Code	Course Name			Theory	Pract.	Lab.	Total		Lect.	Pract.	Lab.	Site W.	Other	Total	
CEN 202	Database Management Systems	B	Compulsory	2	1	1	4	3	32	16	16	86	0	150	6
CEN 204	Digital Design	B	Compulsory	3	2	0	5	4	48	32	0	95	0	175	7
CEN 206	Data Structures	B	Compulsory	3	0	2	5	4	48	0	32	95	0	175	7
MTH 206	Numerical Analysis	C	Compulsory	4	0	0	4	4	64	0	0	86	0	150	6
	Non Technical Elective	D	Elective	3	0	0	3	3	48	0	0	52	0	100	4
Semestral Total				15	3	3	21	18	240	48	48	414	0	750	30

### Non-technical electives

COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka Credits	Semestral Course and studying hours						ECTS
Code	Course Name			Theory	Pract.	Lab.	Total		Lect.	Pract.	Lab.	Site W.	Other	Total	
BUS 103	Introduction to Business	D	Elective	3	0	0	3	3	48	0	0	52	0	100	4
BUS 114	Communication Skills	D	Elective	3	0	0	3	3	48	0	0	52	0	100	4
BUS 105	Introduction to Law	D	Elective	3	0	0	3	3	48	0	0	52	0	100	4
		D	Elective	3	0	0	3	3	48	0	0	52	0	100	4
		D	Elective	3	0	0	3	3	48	0	0	52	0	100	4

## Third Year

### Fifth Semester

COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka Credits	Semestral Lecture and studying hours						ECTS
Code	Course Name			Theory	Pract.	Lab.	Total		Lect.	Pract.	Lab.	Site W.	Other	Total	
CEN 307	Computer Networks	B	Compulsory	3	0	1	4	3.5	48	0	16	86	0	150	6
CEN 309	Analysis of Algorithms	B	Compulsory	3	0	1	4	3.5	48	0	16	86	0	150	6
CEN 311	Web Technologies and Programming	B	Compulsory	3	0	1	4	3.5	48	0	16	86	0	150	6
	Technical Elective	B	Elective	3	0	1	4	3.5	48	0	16	86	0	150	6
	Technical Elective	D	Elective	3	2	1	6	4.5	48	32	16	54	0	150	6
Semestral Total				15	2	5	22	18.5	240	32	80	398	0	750	30

**Third Year**

**Sixth Semester**

COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka Credits	Semestral Course and studying hours					ECTS	
Code	Course Name			Theory	Pract.	Lab.	Total		Lect.	Pract.	Lab.	Site W.	Other		Total
CEN 308	Operating Systems	B	Compulsory	3	0	1	4	3.5	48	0	16	86	0	150	6
CEN 302	Software Engineering	B	Compulsory	3	1	0	4	3.5	48	16	0	86	0	150	6
	Technical Elective	B	Elective	3	0	1	4	3.5	48	0	16	86	0	150	6
	Technical Elective	E	Elective	3	0	1	4	3.5	48	0	16	86	0	150	6
CEN 390	Graduation Project	F	Compulsory	1	3	0	4	2.5	16	48	0	86	0	150	6
CEN 399	Final Comprehensive Exam		Compulsory	1	3	0	4	2.5	16	48	0	86	0	150	
Semestral Total				13	4	3	20	16.5	208	64	48	430	0	750	30

**Technical electives**

COURSES		Course Type	Compulsory /Elective	Weekly Course Distribution				Epoka Credits	Semestral Course and studying hours					ECTS	
Code	Course Name			Theory	Pract.	Lab.	Total		Lect.	Pract.	Lab.	Site W.	Other		Total
CEN 326	Fundamentals of System Administration	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 328	Programming Languages I	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 330	Parallel Programming	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 332	Simulation and Modeling	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 336	Computer Graphics	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 338	Management Information Systems	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 346	Mobile programming	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 348	Internship	E	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 350	Theory of Computation	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 352	Artificial Intelligence	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 354	Web Engineering	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 356	XML and WEB Services	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 358	Computer Graphics	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 366	Digital Data Communication	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 368	Network Security	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 370	Distributed Systems	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 374	Mobile and Wireless Networking	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 376	Data Mining	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 380	Machine Learning	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 386	Management Information Systems	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 389	Embedded Systems	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 333	Microcontrollers	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6
CEN 340	Smartphone Applications	B	Elective	2	2	0	4	3	48	0	0	77	0	125	6