

Department of Electrical & Computer Engineering

Curriculum of the first five semester for students in Electrical Engineering

COURSE CODE	COURSE TITLE	CREDITS HOURS
Semester I (Fall)		
1914103	Calculus I	3
2010115	General Physics I	3
1710103	Introduction to Electrical Engineering	1
1730150	Computer Programming	3
-	Elective Courses	6
Semester II (Spring)		
1914104	Calculus II	3
2010125	General Physics II	3
2010126	General Physics II Lab	1
2010116	General Physics I Lab	1
1710104	Electric Circuits I	2
1914251	Differential Equations	3
-	Elective Courses	2
Semester III (Fall)		
1710203	Electric Circuits II	3
1718217	Electromagnetics	3
1914252	Engineering Mathematics	3
1912296	Engineering Stochastic	3
1710201	Electric Circuits I Lab	1
1914271	Numerical Analysis	2
2410171	Electrical Workshop	1
-	Elective Courses	3
Semester IV (Spring)		
1712236	Electronics Principles	4
1718204	Signals & Systems Analysis	3
1714204	Electric Machines	4
1732203	Digital Systems Design I	3
1732304	Digital Systems Design I Lab	1
-	Elective Courses	4
Semester V (Fall)		
1718303	Communication Systems Principles	3
1716312	Linear Control Systems	3
1714303	Electrical Energy System Analysis I	3
1732303	Digital Systems Design II	3
1714304	Electric Machines I Lab	1
1712237	Electronics Principles Lab	1
-	Elective Courses	4

Curriculum for the three final semesters in Communication Engineering

Semester VI (Spring)		
1718448	Digital Communication Systems	3
1718312	Fields & Waves	3
1740417	Computer Networks	3
1712325	Analog and Digital Electronics I	3
1740403	Guidelines for Research and Oral Presentation	2
1732308	Digital Systems Design II Lab	1
1716401	Linear Control Systems Lab	1

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Semester VII (Fall)

1718425	Communication Circuits	3
1718412	Antenna I	3
1718406	Digital Communication Lab	1
1740350	B.Sc. Project	3
-	Elective Courses(Communication Group)	3

Semester VIII (Spring)

1712452	Filters & Circuit Synthesis	3
1718404	Communication Circuits Lab	1
1712407	Analog and Digital Electronics I Lab	1
1718428	Antenna Lab	1
1718417	Microwave I	3

Curriculum for the three final semesters in Control Engineering

Semester VI (Spring)

1716401	Linear Control Systems Lab	1
1716320	Advanced Control Systems	3
1716412	Instrumentation	3
1716424	Industrial Processes Control	3
1740403	Guidelines for Research and Oral Presentation	2
1732308	Digital Systems Design II Lab	1
-	Elective Courses(Control Group)	3

Semester VII (Fall)

1716304	Digital Control Systems	3
1710417	Industrial electronics	3
1740350	B.Sc. Project I	3
-	Elective Courses(Control Group)	3

Semester VIII (Spring)

1716413	Digital Control Systems Lab	1
1732408	Industrial Automation	3
-	Elective Courses(Control Group)	3
	Elective Course (All Disciplines)	3
	Elective Course (All Disciplines)	3

Curriculum for the three final semesters in Electronic Engineering

Semester VI (Spring)

1712325	Analog and Digital Electronics I	3
1712444	Physics of Electronics	3
1710417	Industrial Electronics	3
1712312	Pulse Techniques *	3
1716401	Linear Control Systems Lab	1
1732308	Digital Systems Design II Lab	1
1740403	Guidelines for Research and Oral Presentation	2

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Semester VII (Fall)

1712304	Analog and Digital Electronics II	3
1718425	Communication Circuits	3
1712407	Analog and Digital Electronics I Lab	1
1740350	B.Sc. Project	3
1712432	Principles of Biomedical Engineering	3
-	Elective Courses(Electronics Group)	3

Semester VIII (Spring)

1718416	Optical Communication & Electronics	3
1716412	Instrumentation	3
1712452	Filters & Circuit Synthesis	3
1710404	Industrial Electronics Lab*	1
1718404	Communication Circuits Lab*	1
1712412	Analog and Digital Electronics II Lab*	1
1712404	Pulse Techniques Lab	1
1712424	High Frequency Circuits Design	3

* Students should take two of these courses.

Curriculum for the three final semesters in Power Engineering

Semester VI (Spring)

1714328	Introduction to Power Electronics	3
1714308	Electrical Energy System Analysis II	3
1714316	Complementary Electric Machines	4
1740403	Guidelines for Research and Oral Presentation	2
1732308	Digital Systems Design II Lab	1
1716401	Linear Systems Control Lab	1
	Elective Course (Power Group)	3

Semester VII (Fall)

1740350	B.Sc. Project I	3
1714406	Electric Machine Lab II	1
1714403	Energy Systems Lab	1
	Elective Course (Power Engineering)	3
	Elective Course (Power Engineering)	3
	Elective Course (Power Engineering)	3

Semester VIII (Spring)

1714486	Power Electronics Lab,	1
	Elective Course (Power Engineering)	3
	Elective Course (Power Engineering)	3
	Elective Course (All Disciplines)	3
	Elective Course (All Disciplines)	3

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Curriculum for Students Majoring in Computer Engineering: Hardware

Semester I (Fall)

1914101	Calculus I	3
2010115	General Physics I	3
1730115	Computer Programming and Lab	4
1730101	Computer Workshop	1
1730103	Introduction to Computer Engineering	1
-	Elective Courses	3

Semester II (Spring)

1914102	Calculus II	3
2010125	General Physics II	3
1734102	Advanced Computer Programming and Lab	4
1730217	Discrete Mathematical Structures	3
2510111	General English for Engineering	3
2010116	General Physics I Lab	1
-	Elective Courses	1

Semester III (Fall)

1914251	Differential Equations	3
-----	Electric and Electronic Circuits	3
1734212	Data Structures	3
1732203	Digital Systems Design I	3
1732204	Digital Systems Design I Lab	1
2010126	General Physic Lab. (Electricity)	1
2510318	Especial English for Computer Science	2
-	Elective Courses	2

Semester IV (Spring)

1914252	Engineering Mathematics	3
1912296 or 1912291	Engineering Probability	3
	Engineering Statistics and Probability	3
1732208	Computer Organization & Architectures	3
1734425	Design & Analysis of Algorithms	3
-----	Electric and Electronic Circuits II	3
1734325	Theory of Formal Language	3
-	Elective Courses	3

Semester V (Fall)

1732312	Microprocessors	3
1734320	Operating Systems	3
1718204	Signal & Systems Analysis	3
1732417	Digital Electronics	3
1914271	Numerical Methods	2
1732304	Computer Organization & Architectures Lab	1
1710201	Electric and Electronic Circuits Lab	1
1734304	Operating Systems Lab	1
-	Elective Courses	2

Semester VI (Spring)

1740320	Computer Networks I	3
1730425	Data Communications and Computer Networks	3
1732420	VLSI Circuit Design	3
1732409	Introductions to Robotics and Automation	3
1732401	Microprocessors Lab	1
----	Digital Electronics Lab	1
-	Elective Courses	2

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Semester VII (Fall)

1732316	Embedded Systems	3
1718449	Hardware Description Languages	3
1740312	Technical Writing and Presentation	2
1740404	Computer Networks Lab	1
1740350	B.Sc. Project	3
-	Elective Courses	3

Semester VIII (Spring)

1732425	Interfacing Circuits Design	3
1310426	Industrial Management & Economics	2
-	Elective Courses	11

Curriculum for Students Majoring in Computer Engineering: Software

Semester I (Fall)

1914101	Calculus I	3
2010115	General Physics I	3
1730115	Computer Programming and Lab	4
1730101	Computer Workshop	1
1730103	Introduction to Computer Engineering	1
-	Elective Courses	3

Semester II (Spring)

1914102	Calculus II	3
2010125	General Physics II	3
1734102	Advanced Computer Programming and Lab	4
1730217	Discrete Mathematical Structures	3
2510111	General English for Engineering	3
2010116	General Physics I Lab	1
-	Elective Courses	1

Semester III (Fall)

1914251	Differential Equations	3
1912296 or 1912291	Engineering Probability	3
	Engineering Statistics and Probability	3
1734212	Data Structures	3
1732203	Digital Systems Design I	3
1732204	Digital Systems Design I Lab	1
2010126	General Physic Lab. (Electricity)	1
2510318	Especial English for Computer Science	2
-	Elective Courses	2

Semester IV (Spring)

1914252	Engineering Mathematics	3
-----	Electric and Electronic Circuits	3
1732208	Computer Organization and Architecture	3
1734425	Design & Analysis of Algorithms	3
1734325	Theory of Formal Language	3
-	Elective Courses	3

Semester V (Fall)

1734312	Software Engineering I	3
1734303	Database Management Systems I	3
1734320	Operating Systems	3
1732312	Microprocessors	3
1734333	Compiler Design	3
1734307	Software Engineering Lab	1
1734304	Operating Systems Lab	1
-	Elective Courses	2

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Semester VI (Spring)

1734308	Database Management Systems II	3
1740320	Computer Networks I	3
1734441	Programming Languages	3
1734420	Artificial Intelligence	3
1914271	Numerical Methods	2
1734452	Database Management Systems Lab	1
-	Elective Courses	3

Semester VII (Fall)

1734436	Computer Graphics	3
1732401	Microprocessors Lab	1
1740312	Technical Writing and Presentation	2
1740404	Computer Networks Lab	1
1740350	B.Sc. Project	3
-	Elective Courses	5

Semester VIII (Spring)

1734449	Software Engineering II	3
1310426	Industrial Management & Economics	2
-	Elective Courses	14

Curriculum for Students Majoring in *IT (Information Technology)*

Semester I (Fall)

1914101	Calculus I	3
2010115	General Physics I	3
1730115	Computer Programming and Lab	4
1730101	Computer Workshop	1
1730103	Introduction to Computer Engineering	1
-	Elective Courses	3

Semester II (Spring)

1914102	Calculus II	3
2010125	General Physics II	3
1734102	Advanced Computer Programming and Lab	4
1730217	Discrete Mathematical Structures	3
2510111	General English for Engineering	3
2010116	General Physics I Lab	1
-	Elective Courses	1

Semester III (Fall)

1914251	Differential Equations	3
1912296 or 1912291	Engineering Probability	3
	Engineering Statistics and Probability	3
1734212	Data Structures	3
1732203	Digital Systems Design I	3
1732204	Digital Systems Design I Lab	1
2010126	General Physic Lab. (Electricity)	1
2510318	Especial English for Computer Science	2
-	Elective Courses	2

Semester IV (Spring)

1914252	Engineering Mathematics	3
-----	Electric and Electronic Circuits	3
1730120	Information Technology Principles	3
1732208	Computer Organization and Architecture	3
1736208	Ethics in IT	3
-	Elective Courses	3

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Semester V (Fall)

1718204	Signals & Systems Analysis	3
1734312	Software Engineering I	3
1734303	Database Management Systems I	3
1734320	Operating Systems	3
1312354	Management Principles & Organization Theory	3
1734307	Software Engineering Lab	1
-	Elective Courses	2

Semester VI (Spring)

1740320	Computer Networks I	3
1736407	IT project Management and Control	3
1730425	Data Communications and Computer Networks	3
1740404	Computer Networks Lab	1
1734420	Artificial Intelligence	3
1734452	Database Management Systems Lab	1
-	Elective Courses	3

Semester VII (Fall)

1736318	Information Technology Engineering	3
1736310	Computer Networks II	3
1740312	Technical Writing and Presentation	2
1740404	Computer Networks Lab	1
1740350	B.Sc. Project	3
-	Elective Courses	5

Semester VIII (Spring)

1736438	Information Technology Strategic Management	3
1736432	Network Security	3
1736450	Human Computer Interaction	3
-	Elective Courses	