



EGYPTIAN NATIONAL UNIVERSITIES

مشروع وإنشاء الجامعات المصرية الأهلية

جامعة العلمين الدولية  
ALALAMEIN INTERNATIONAL UNIVERSITY



Al Alamein  
International University

## Computer Engineering Program

## برنامج هندسة الحاسب

### I. Embedded Systems

### أ. النظر المدمجة

## Study Plan

## الخطة الدراسية

Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
1	MEC011	Engineering Drawing (1)	1	2	2	0	5	2	135	4
	CSE014	Structured Programming	3	3	0	0	6	3	180	6
	PHY212	Introduction to Engineering Physics	2	2	0	0	4	3	150	6
	MAT111	Mathematics I	3	1	0	0	4	3	150	6
	MAT123	Mechanics	2	2	0	0	4	3	150	6
	UC1	University Requirement (1)	2	0	0	0	2	2	90	4
	UE1	Elective University (1)	2	0	0	0	2	2	90	4
							<b>27</b>	<b>18</b>	<b>945</b>	<b>36</b>
2	CSE015	Object Oriented Programming	3	3	0	0	6	3	180	6
	CSE113	Electric & Electronic Circuits	1	3	2	0	6	3	180	6
	PHY211	Physics II	2	2	0	0	4	3	150	6
	MAT114	Analytical Geometry & Calculus I	3	2	0	0	5	4	195	8
	MAT131	Statistics	1	2	0	0	3	2	105	4
	UC2	University Requirement (2)	2	0	0	0	2	2	90	4



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
							26	17	900	34
3	ELE115	Electrical Circuits & Measurements	2	2	1	0	5	3	165	5
	CSE111	Data Structures	3	3	0	0	6	3	180	6
	CSE131	Logic Design	3	2	2	0	7	3	195	6
	AIE111	Artificial Intelligence	3	3	0	0	6	3	180	6
	MAT313	Differential Equations & Numerical Analysis	3	2	0	0	5	4	195	8
	UC3	University Requirement (3)	2	0	0	0	2	2	90	4
							31	18	1005	35
4	ELE432	Digital Signal Processing	2	1	1	0	4	3	150	6
	CSE112	Design & Analysis of Algorithms	3	3	0	0	6	3	180	6
	CSE132	Computer Architecture & Organization	3	2	0	0	5	3	165	6
	CSE315	Discrete Mathematics	2	0	2	0	4	3	150	6
	AIE121	Machine Learning	3	3	0	0	6	3	180	6
	UC4	University Requirement (4)	2	0	0	0	2	2	90	4
							27	17	915	34
5	CSE211	Web Programming	3	2	0	0	5	3	165	6
	CSE233	Operating Systems	3	2	0	0	5	3	165	6
	CSE261	Computer Networks	3	2	0	0	5	3	165	6
	CSE281	Image Processing	3	3	0	0	6	3	180	6
	AIE231	Neural Networks	3	3	0	0	6	3	180	6
	UE2	Elective University (2)	2	0	0	0	2	2	90	4
							29	17	945	34
6	CSE221	Database Systems	3	3	0	0	6	3	180	6
	CSE242	Cryptography	3	3	0	0	6	3	180	6
	CSE251	Software Engineering	3	3	0	0	6	3	180	6



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
	CSE272	Embedded Systems	3	3	0	0	6	3	180	6
	CSE273	Parallel & Distributed Systems	2	1	1	0	4	3	150	6
	CSE291	Field Training 1 In Computer Engineering	2	0	0	0	2	1	30	2
	UC5	University Requirement (5)	2	0	0	0	2	2	90	4
							<b>32</b>	<b>18</b>	<b>990</b>	<b>36</b>
7	ELE215	Electronics & Digital Circuits	2	1	1	0	4	2	105	4
	CSE344	Cyber Security	3	3	0	0	6	3	180	6
	CSE376	Real Time & Embedded Systems Design	3	2	1	0	6	3	180	6
	E1	Elective Course (1)	2	2	0	0	4	3	150	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
	UC6	University Requirement (6)	2	0	0	0	2	2	90	4
							<b>28</b>	<b>16</b>	<b>885</b>	<b>32</b>
8	CSE322	Big Data Analytics 1	3	3	0	0	6	3	180	6
	CSE363	Cloud Computing	3	3	0	0	6	3	180	6
	CSE392	Field Training 2 In Computer Engineering	2	0	0	0	2	1	30	2
	E1	Elective Course (1)	2	2	0	0	4	3	150	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
							<b>30</b>	<b>16</b>	<b>900</b>	<b>32</b>
9	CSE464	Internet of Things	3	3	0	0	6	3	180	6
	CSE477	Selected Topics in Embedded Systems	3	3	0	0	6	3	180	6
	CSE493	Graduation Project 1	2	0	0	0	2	3	120	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
	UC7	University Requirement (7)	2	0	0	0	2	2	90	4
							<b>22</b>	<b>14</b>	<b>750</b>	<b>28</b>



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
10	CSE446	Information & Computer Networks Security	3	3	0	0	6	3	180	6
	CSE466	Selected Topics in IoT	3	2	0	0	5	3	165	6
	CSE494	Graduation Project 2	2	0	0	0	2	3	120	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
	UE3	Elective University (3)	2	0	0	0	2	2	90	4
							21	14	735	28
							273	165	8970	329

### Elective (E1)

ELE211	Electromagnetic Fields
ELE232	Fundamentals of Communication Systems
ELE233	Control Engineering
CHE142	Engineering Chemistry
PHY328	Physics of Semiconductors & Dielectrics
MAT121	Dynamics
MAT122	Statics
MAT231	Probability & Statistics

### Elective (E2)

CSE241	Security of Information Systems
CSE271	Introduction to Parallel Computing
CSE311	Design of Compilers
CSE323	Advanced Database Systems
CSE374	Parallel Programming
CSE383	Computer Vision



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CSE425	Big Data Analytics 2
CSE426	Selected Topics in Data Science
CSE465	Selected Topics in Cloud Computing
CSE475	Distributed Information Systems
CSE478	High Performance Computing
AIE322	Advanced Machine Learning
AIE323	Data Mining
AIE332	Deep Learning
AIE351	Robotics Design



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ALALAMEIN INTERNATIONAL UNIVERSITYAl Alamein  
International University**Computer Engineering Program****برنامج هندسة الحاسب****II. Cloud Computing****II. الحوسبة السحابية****Study Plan****الخطط الدراسية**

Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
1	MEC011	Engineering Drawing (1)	1	2	2	0	5	2	135	4
	CSE014	Structured Programming	3	3	0	0	6	3	180	6
	PHY212	Introduction to Engineering Physics	2	2	0	0	4	3	150	6
	MAT111	Mathematics I	3	1	0	0	4	3	150	6
	MAT123	Mechanics	2	2	0	0	4	3	150	6
	UC1	University Requirement (1)	2	0	0	0	2	2	90	4
	UE1	Elective University (1)	2	0	0	0	2	2	90	4
							<b>27</b>	<b>18</b>	<b>945</b>	<b>36</b>
2	CSE015	Object Oriented Programming	3	3	0	0	6	3	180	6
	CSE113	Electric & Electronic Circuits	1	3	2	0	6	3	180	6
	PHY211	Physics II	2	2	0	0	4	3	150	6
	MAT114	Analytical Geometry & Calculus I	3	2	0	0	5	4	195	8
	MAT131	Statistics	1	2	0	0	3	2	105	4
	UC2	University Requirement (2)	2	0	0	0	2	2	90	4
							<b>26</b>	<b>17</b>	<b>900</b>	<b>34</b>



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
3	ELE115	Electrical Circuits & Measurements	2	2	1	0	5	3	165	5
	CSE111	Data Structures	3	3	0	0	6	3	180	6
	CSE131	Logic Design	3	2	2	0	7	3	195	6
	AIE111	Artificial Intelligence	3	3	0	0	6	3	180	6
	MAT313	Differential Equations & Numerical Analysis	3	2	0	0	5	4	195	8
	UC3	University Requirement (3)	2	0	0	0	2	2	90	4
							<b>31</b>	<b>18</b>	<b>1005</b>	<b>35</b>
4	ELE432	Digital Signal Processing	2	1	1	0	4	3	150	6
	CSE112	Design & Analysis of Algorithms	3	3	0	0	6	3	180	6
	CSE132	Computer Architecture & Organization	3	2	0	0	5	3	165	6
	CSE315	Discrete Mathematics	2	0	2	0	4	3	150	6
	AIE121	Machine Learning	3	3	0	0	6	3	180	6
	UC4	University Requirement (4)	2	0	0	0	2	2	90	4
							<b>27</b>	<b>17</b>	<b>915</b>	<b>34</b>
5	CSE211	Web Programming	3	2	0	0	5	3	165	6
	CSE233	Operating Systems	3	2	0	0	5	3	165	6
	CSE261	Computer Networks	3	2	0	0	5	3	165	6
	CSE271	Introduction to Parallel Computing	3	3	0	0	6	3	180	6
	AIE231	Neural Networks	3	3	0	0	6	3	180	6
	UE2	Elective University (2)	2	0	0	0	2	2	90	4
							<b>29</b>	<b>17</b>	<b>945</b>	<b>34</b>
6	CSE221	Database Systems	3	3	0	0	6	3	180	6
	CSE242	Cryptography	3	3	0	0	6	3	180	6
	CSE251	Software Engineering	3	3	0	0	6	3	180	6
	CSE272	Embedded Systems	3	3	0	0	6	3	180	6



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
	CSE273	Parallel & Distributed Systems	2	1	1	0	4	3	150	6
	CSE291	Field Training 1 In Computer Engineering	2	0	0	0	2	1	30	2
	UC5	University Requirement (5)	2	0	0	0	2	2	90	4
							<b>32</b>	<b>18</b>	<b>990</b>	<b>36</b>
7	ELE215	Electronics & Digital Circuits	2	1	1	0	4	2	105	4
	CSE344	Cyber Security	3	3	0	0	6	3	180	6
	CSE362	Industrial Networks	3	3	0	0	6	3	180	6
	E1	Elective Course (1)	2	2	0	0	4	3	150	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
	UC6	University Requirement (6)	2	0	0	0	2	2	90	4
							<b>29</b>	<b>16</b>	<b>900</b>	<b>32</b>
8	CSE322	Big Data Analytics 1	3	3	0	0	6	3	180	6
	CSE363	Cloud Computing	3	3	0	0	6	3	180	6
	CSE392	Field Training 2 In Computer Engineering	2	0	0	0	2	1	30	2
	E1	Elective Course (1)	2	2	0	0	4	3	150	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
							<b>32</b>	<b>16</b>	<b>930</b>	<b>32</b>
9	CSE427	Selected Topics in Big Data	3	3	0	0	6	3	180	6
	CSE464	Internet of Things	3	3	0	0	6	3	180	6
	CSE493	Graduation Project 1	2	0	0	0	2	3	120	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
	UC7	University Requirement (7)	2	0	0	0	2	2	90	4
							<b>23</b>	<b>14</b>	<b>765</b>	<b>28</b>
	CSE446	Information & Computer Networks Security	3	3	0	0	6	3	180	6





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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
10	CSE465	Selected Topics in Cloud Computing	3	3	0	0	6	3	180	6
	CSE494	Graduation Project 2	2	0	0	0	2	3	120	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
	UE3	Elective University (3)	2	0	0	0	2	2	90	4
								23	14	765
							279	165	9060	329

### Elective (E1)

ELE211	Electromagnetic Fields
ELE232	Fundamentals of Communication Systems
ELE233	Control Engineering
CHE142	Engineering Chemistry
PHY328	Physics of Semiconductors & Dielectrics
MAT121	Dynamics
MAT122	Statics
MAT231	Probability & Statistics

### Elective (E2)

CSE241	Security of Information Systems
CSE243	Secure Programming
CSE281	Image Processing
CSE311	Design of Compilers
CSE374	Parallel Programming
CSE376	Real Time & Embedded Systems Design
CSE383	Computer Vision



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CSE425	Big Data Analytics 2
CSE426	Selected Topics in Data Science
CSE447	Selected Topics in Computer Security
CSE466	Selected Topics in IoT
CSE475	Distributed Information Systems
CSE478	High Performance Computing
AIE322	Advanced Machine Learning
AIE323	Data Mining
AIE332	Deep Learning
AIE351	Robotics Design
BMD462	Bio-Inspired Computing



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International University**Computer Engineering Program****برنامج هندسة الحاسب****III. High Performance Computing****III. الحوسبة عالية الأداء****Study Plan****الخطط الدراسية**

Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
1	MEC011	Engineering Drawing (1)	1	2	2	0	5	2	135	4
	CSE014	Structured Programming	3	3	0	0	6	3	180	6
	PHY212	Introduction to Engineering Physics	2	2	0	0	4	3	150	6
	MAT111	Mathematics I	3	1	0	0	4	3	150	6
	MAT123	Mechanics	2	2	0	0	4	3	150	6
	UC1	University Requirement (1)	2	0	0	0	2	2	90	4
	UE1	Elective University (1)	2	0	0	0	2	2	90	4
							<b>27</b>	<b>18</b>	<b>945</b>	<b>36</b>
2	CSE015	Object Oriented Programming	3	3	0	0	6	3	180	6
	CSE113	Electric & Electronic Circuits	1	3	2	0	6	3	180	6
	PHY211	Physics II	2	2	0	0	4	3	150	6
	MAT114	Analytical Geometry & Calculus I	3	2	0	0	5	4	195	8
	MAT131	Statistics	1	2	0	0	3	2	105	4
	UC2	University Requirement (2)	2	0	0	0	2	2	90	4
							<b>26</b>	<b>17</b>	<b>900</b>	<b>34</b>



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
3	ELE115	Electrical Circuits & Measurements	2	2	1	0	5	3	165	5
	CSE111	Data Structures	3	3	0	0	6	3	180	6
	CSE131	Logic Design	3	2	2	0	7	3	195	6
	AIE111	Artificial Intelligence	3	3	0	0	6	3	180	6
	MAT313	Differential Equations & Numerical Analysis	3	2	0	0	5	4	195	8
	UC3	University Requirement (3)	2	0	0	0	2	2	90	4
							<b>31</b>	<b>18</b>	<b>1005</b>	<b>35</b>
4	ELE432	Digital Signal Processing	2	1	1	0	4	3	150	6
	CSE112	Design & Analysis of Algorithms	3	3	0	0	6	3	180	6
	CSE132	Computer Architecture & Organization	3	2	0	0	5	3	165	6
	CSE315	Discrete Mathematics	2	0	2	0	4	3	150	6
	AIE121	Machine Learning	3	3	0	0	6	3	180	6
	UC4	University Requirement (4)	2	0	0	0	2	2	90	4
							<b>27</b>	<b>17</b>	<b>915</b>	<b>34</b>
5	CSE211	Web Programming	3	2	0	0	5	3	165	6
	CSE233	Operating Systems	3	2	0	0	5	3	165	6
	CSE261	Computer Networks	3	2	0	0	5	3	165	6
	CSE271	Introduction to Parallel Computing	3	3	0	0	6	3	180	6
	AIE231	Neural Networks	3	3	0	0	6	3	180	6
	UE2	Elective University (2)	2	0	0	0	2	2	90	4
							<b>29</b>	<b>17</b>	<b>945</b>	<b>34</b>
6	CSE212	Theory of Computation & Compilers	3	3	0	0	6	3	180	6
	CSE221	Database Systems	3	3	0	0	6	3	180	6
	CSE251	Software Engineering	3	3	0	0	6	3	180	6
	CSE272	Embedded Systems	3	3	0	0	6	3	180	6



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
	CSE273	Parallel & Distributed Systems	2	1	1	0	4	3	150	6
	CSE291	Field Training 1 In Computer Engineering	2	0	0	0	2	1	30	2
	UC5	University Requirement (5)	2	0	0	0	2	2	90	4
							<b>32</b>	<b>18</b>	<b>990</b>	<b>36</b>
7	ELE215	Electronics & Digital Circuits	2	1	1	0	4	2	105	4
	CSE374	Parallel Programming	3	2	0	0	5	3	165	6
	E1	Elective Course (1)	2	2	0	0	4	3	150	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
	UC6	University Requirement (6)	2	0	0	0	2	2	90	4
							<b>29</b>	<b>16</b>	<b>900</b>	<b>32</b>
8	CSE322	Big Data Analytics 1	3	3	0	0	6	3	180	6
	CSE363	Cloud Computing	3	3	0	0	6	3	180	6
	CSE392	Field Training 2 In Computer Engineering	2	0	0	0	2	1	30	2
	E1	Elective Course (1)	2	2	0	0	4	3	150	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
							<b>32</b>	<b>16</b>	<b>930</b>	<b>32</b>
9	CSE427	Selected Topics in Big Data	3	3	0	0	6	3	180	6
	CSE464	Internet of Things	3	3	0	0	6	3	180	6
	CSE478	High Performance Computing	3	3	0	0	6	3	180	6
	CSE493	Graduation Project 1	2	0	0	0	2	3	120	6
	UC7	University Requirement (7)	2	0	0	0	2	2	90	4
							<b>22</b>	<b>14</b>	<b>750</b>	<b>28</b>
	CSE446	Information & Computer Networks Security	3	3	0	0	6	3	180	6



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
10	CSE479	Selected Topics in High Performance Computing	3	3	0	0	6	3	180	6
	CSE494	Graduation Project 2	2	0	0	0	2	3	120	6
	E2	Elective Course (2)	3	2	2	0	7	3	195	6
	UE3	Elective University (3)	2	0	0	0	2	2	90	4
								23	14	765
							278	165	9045	329

### Elective (E1)

ELE211	Electromagnetic Fields
ELE232	Fundamentals of Communication Systems
ELE233	Control Engineering
CHE142	Engineering Chemistry
PHY328	Physics of Semiconductors & Dielectrics
MAT121	Dynamics
MAT122	Statics
MAT231	Probability & Statistics

### Elective (E2)

CSE211	Web Programming
CSE241	Security of Information Systems
CSE281	Image Processing
CSE311	Design of Compilers
CSE376	Real Time & Embedded Systems Design
CSE383	Computer Vision
CSE425	Big Data Analytics 2



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Al Alamein  
International University

CSE465	Selected Topics in Cloud Computing
CSE466	Selected Topics in IoT
CSE475	Distributed Information Systems
CSE477	Selected Topics in Embedded Systems
AIE316	Evolutionary Algorithms
AIE322	Advanced Machine Learning
AIE323	Data Mining
AIE332	Deep Learning
AIE351	Robotics Design
BMD462	Bio-Inspired Computing



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## Computer Engineering Program

## برنامج هندسة الحاسب

### IV. Cyber Security

### IV. الأمن السيبراني

## Study Plan

## الخطط الدراسية

Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
1	MEC011	Engineering Drawing (1)	1	2	2	0	5	2	135	4
	CSE014	Structured Programming	3	3	0	0	6	3	180	6
	PHY212	Introduction to Engineering Physics	2	2	0	0	4	3	150	6
	MAT111	Mathematics I	3	1	0	0	4	3	150	6
	MAT123	Mechanics	2	2	0	0	4	3	150	6
	UC1	University Requirement (1)	2	0	0	0	2	2	90	4
	UE1	Elective University (1)	2	0	0	0	2	2	90	4
							27	18	945	36
2	CSE015	Object Oriented Programming	3	3	0	0	6	3	180	6
	CSE113	Electric & Electronic Circuits	1	3	2	0	6	3	180	6
	PHY211	Physics II	2	2	0	0	4	3	150	6
	MAT114	Analytical Geometry & Calculus I	3	2	0	0	5	4	195	8
	MAT131	Statistics	1	2	0	0	3	2	105	4
	UC2	University Requirement (2)	2	0	0	0	2	2	90	4
							26	17	900	34





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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
3	ELE115	Electrical Circuits & Measurements	2	2	1	0	5	3	165	5
	CSE111	Data Structures	3	3	0	0	6	3	180	6
	CSE131	Logic Design	3	2	2	0	7	3	195	6
	AIE111	Artificial Intelligence	3	3	0	0	6	3	180	6
	MAT313	Differential Equations & Numerical Analysis	3	2	0	0	5	4	195	8
	UC3	University Requirement (3)	2	0	0	0	2	2	90	4
							<b>31</b>	<b>18</b>	<b>1005</b>	<b>35</b>
4	ELE432	Digital Signal Processing	2	1	1	0	4	3	150	6
	CSE112	Design & Analysis of Algorithms	3	3	0	0	6	3	180	6
	CSE132	Computer Architecture & Organization	3	2	0	0	5	3	165	6
	CSE315	Discrete Mathematics	2	0	2	0	4	3	150	6
	AIE121	Machine Learning	3	3	0	0	6	3	180	6
	UC4	University Requirement (4)	2	0	0	0	2	2	90	4
							<b>27</b>	<b>17</b>	<b>915</b>	<b>34</b>
5	CSE211	Web Programming	3	2	0	0	5	3	165	6
	CSE233	Operating Systems	3	2	0	0	5	3	165	6
	CSE241	Security of Information Systems	3	2	0	0	5	3	165	6
	CSE261	Computer Networks	3	2	0	0	5	3	165	6
	AIE231	Neural Networks	3	3	0	0	6	3	180	6
	UE2	Elective University (2)	2	0	0	0	2	2	90	4
							<b>28</b>	<b>17</b>	<b>930</b>	<b>34</b>
6	CSE221	Database Systems	3	3	0	0	6	3	180	6
	CSE242	Cryptography	3	3	0	0	6	3	180	6
	CSE243	Secure Programming	3	3	0	0	6	3	180	6
	CSE251	Software Engineering	3	3	0	0	6	3	180	6



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
	CSE272	Embedded Systems	3	3	0	0	6	3	180	6
	CSE291	Field Training 1 In Computer Engineering	2	0	0	0	2	1	30	2
	UC5	University Requirement (5)	2	0	0	0	2	2	90	4
							<b>34</b>	<b>18</b>	<b>1020</b>	<b>36</b>
7	ELE215	Electronics & Digital Circuits	2	1	1	0	4	2	105	4
	CSE344	Cyber Security	3	3	0	0	6	3	180	6
	E1	Elective Course (1)	2	2	0	0	4	3	150	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
	UC6	University Requirement (6)	2	0	0	0	2	2	90	4
							<b>28</b>	<b>16</b>	<b>885</b>	<b>32</b>
8	CSE322	Big Data Analytics 1	3	3	0	0	6	3	180	6
	CSE363	Cloud Computing	3	3	0	0	6	3	180	6
	CSE374	Parallel Programming	3	2	0	0	5	3	165	6
	CSE392	Field Training 2 In Computer Engineering	2	0	0	0	2	1	30	2
	E1	Elective Course (1)	2	2	0	0	4	3	150	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
							<b>29</b>	<b>16</b>	<b>885</b>	<b>32</b>
9	CSE445	Selected Topics in Information Security	3	3	0	0	6	3	180	6
	CSE464	Internet of Things	3	3	0	0	6	3	180	6
	CSE493	Graduation Project 1	2	0	0	0	2	3	120	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
	UC7	University Requirement (7)	2	0	0	0	2	2	90	4
							<b>22</b>	<b>14</b>	<b>750</b>	<b>28</b>
	CSE446	Information & Computer Networks Security	3	3	0	0	6	3	180	6



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Semester	Code	Course Name	LCT	LAB	TUT	OTH	CNTCT	CH	SWL	ECTS
10	CSE447	Selected Topics in Computer Security	3	3	0	0	6	3	180	6
	CSE494	Graduation Project 2	2	0	0	0	2	3	120	6
	E2	Elective Course (2)	3	3	0	0	6	3	180	6
	UE3	Elective University (3)	2	0	0	0	2	2	90	4
								22	14	750
							274	165	8985	329

### Elective (E1)

ELE211	Electromagnetic Fields
ELE232	Fundamentals of Communication Systems
ELE233	Control Engineering
CHE142	Engineering Chemistry
PHY328	Physics of Semiconductors & Dielectrics
MAT121	Dynamics
MAT122	Statics
MAT231	Probability & Statistics

### Elective (E2)

CSE271	Introduction to Parallel Computing
CSE273	Parallel & Distributed Systems
CSE281	Image Processing
CSE311	Design of Compilers
CSE376	Real Time & Embedded Systems Design
CSE382	Computer Graphics
CSE383	Computer Vision



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CSE425	Big Data Analytics 2
CSE448	Cyber Forensics
AIE322	Advanced Machine Learning
AIE323	Data Mining
AIE332	Deep Learning
AIE351	Robotics Design