AUTOMOTIVE TECHNOLOGY ENGINEERING
BACHELOR'S DEGREE | 2022 Study Plan

كلية لومينوس الجامعية التقنية
LTUC LUMINUS TECHNICAL UNIVERSITY COLLEGE

Unit Category	Unit Code	Unit Title	Credit Hours	Theory Hours	Practical Hours	Fin. Crd.	Prerequisite Code
Prerequisite Requirements		English Language Level 1 *	0	4	2	3	
		English Language Level 2 *	0	4	2	3	
Compulsory University College Requirement	37700114	Military Sciences	3	3	0	1	
	37700110	Study Skills	3	3	0	3	
	37700111	Life Skills	3	3	0	2	
	37700412	Career Readiness	3	3	0	3	
	37700413	Entrepreneurship skills	3	3	0	3	
	37700121	Intermediate English	3	4	2	3	
Elective University College Requirement [3 Units Selection]	37700122	Foreign Languages	3	3	0	3	
	37700241	Digital Literacy	3	1	6	3	
	37700115	Digital Marketing and Social Media	3	1	6	3	
	30332124	Culinary Art *(for learners not majoring in Culinary Arts Management)*	3	1	6	3	
	30112110	Principles of Media and Journalism *(for learners not majoring in Digital Media)*	3	2	3	3	
	37700216	Logical Math and Critical Thinking	3	3	0	3	
	35521502	Occupational Health and Safety	3	2	3	3	
Compulsory Department Requirements	37700161	General Chemistry	2	2	0	2	
	37700162	General Chemistry (lab)	1	0	2	1	37700161
	37700132	Calculus (1)	3	3	0	3	
	37700133	Calculus 2	3	3	0	3	37700132
	37700151	Physics 1	3	3	0	2	
	37700152	Physics 1 Lab	1	0	2	1	37700151
	37700153	Physics 2	3	3	0	2	37700151
	37700154	Physics (2) Lab	1	0	2	1	37700153
	35522212	Statics	3	3	0	3	37700151
	35522213	Dynamics and Mechanical Vibration	3	3	0	1	35522212
Compulsory Program (Specialism) Requirements	35522201	Engineering Measurments in Automobile	2	2	0	1	37700133
	35522202	Engineering Measurments in Automobile Lab	1	0	2	1	35522201
	35523203	Vibrations and harshness in Automobiles	2	2	0	2	35522213
	35523204	Vibrations and harshness in Automobiles Lab	2	0	4	1	35523203
	35524205	Modeling, simulation and their applications in vehicles	2	2	0	2	37700133+35522209
	35524206	Modeling, simulation and their applications in vehicles Lab	2	0	4	1	35524205
	35523207	Vehicle Control Systems	2	2	0	2	35522201
	35523208	Vehicle Control Systems Lab	2	0	4	1	35523207
	35522209	Science and Strength of materials and their applications in cars	2	2	0	2	35522212
	35522210	Science and Strength of materials and their applications in cars/Lab	1	0	2	1	35522209
	35522211	Mechanical Drawings	2	0	4	1	35521214
	35525303	Automotive Software Engineering	2	2	0	2	35523304
	35521214	Engineering Drawings	2	0	4	1	-
	35525405	Maintenance of the vehicle tire range	2	2	0	2	35522419
	35523101	Thermal Engineering and its Applications	2	2	0	2	37700161+37700133
	35523102	Thermal Engineering Lab	1	0	2	1	35523101
	35523103	Fluids and Hydraulic and Pneumatic Power Systems	2	2	0	2	37700153
	35523104	Fluids and Hydraulic and Pneumatic Power Systems Lab	1	0	2	1	35523103
	35523105	Internal Combustion Engines	2	2	0	2	35523101
	35523106	Internal Combustion Engines Lab	1	0	2	1	35523105
	35522301	Principles of Electrical and Electronic Circuits	2	2	0	2	37700153
	35522302	Principles of Electrical and Electronic Circuits Lab	1	0	2	1	35522301
	35522419	Automotive Engineering	2	2	0	2	35523105
	35522420	Labrotary and Workshops of Automobiles	2	0	4	1	35522419
	35523304	Embedded systems and their applications in vehicles	2	2	0	2	35522301
	35525403	Vehicle Structures and care	1	0	2	1	35522419
	35524501	Fundamentals of Spare Parts Management, Maintenance Centers and Customer Service	3	2	2	3	35522401+35522420
	35524402	Automobiles Diagnostics, Maintenance and Repair	2	0	4	2	35522419
	35521215	Engineering Workshops	1	0	2	1	-
	35524409	Air Conditioning Control Systems in Vehicles	2	2	0	2	35522419
	35524410	Automotive Air Conditioning Control Systems Laboratory	1	0	2	1	35524409
	35524411	Automotive Emission Control (Diesel & Gasoline)	2	2	0	2	35524402
	35524412	Automotive Emission Control Laboratory (Diesel & Gasoline)	2	0	4	1	35524411
	35523305	Automotive Electricity & Electronics	2	2	0	2	35522301
	35523306	Automotive Electricity & Electronics Laboratory	2	0	4	1	35523305
	35524406	Brake systems in cars	2	2	0	2	35522419
	35524407	Automotive Brake Systems Laboratory	1	0	2	1	35524406
	35524413	Suspension, steering and driving systems in cars	2	2	0	2	35522419
	35524414	Automotive Suspension and Steering Systems Laboratory	1	0	2	1	35524413
	35525417	Hybrid and Electric Vehicle Systems	3	3	0	2	35523305
	35525418	Hybrid and Electric Vehicle Systems Laboratory	2	0	4	1	35525417
	35525601	Graduation Project (1)	3	1	4	1	-
	35525415	Power Transfer Systems in Vehicles	2	2	0	1	35522419
	35525416	Laboratory of Power Transfer Systems in Vehicles	2	0	4	1	35525415
	35522401	Periodic and preventive maintenance of vehicles	3	0	6	2	35522419
	35524408	Diesel engines and modern fuel systems	2	0	4	1	35522301
	35525602	Graduation Project (2)	3	0	6	1	35525601
	35525701	Field Training	6	0	12	2	-
Elective Program (Specialism) Requirements [3 Units Selection]	35523421	Automotive oils and liquids	3	3	0	3	35522401
	35523307	Signal Processing and Digital Control in Vehicles	3	3	0	3	35523207
	35524502	Fleet Management	3	3	0	3	35522419
	35525216	Formula One Cars	3	3	0	3	35524205
	35524422	Autonomous Driving Systems	3	3	0	3	35524413
	35523308	Wired and wireless networks in cars	3	3	0	3	35525303
	35525309	Electronic systems and high-voltage batteries in vehicles	3	3	0	3	35523305
	35524503	Management and planning of car maintenance workshops	3	3	0	3	35524501
	35525423	Special Topics in Automotive Technology	3	3	0	3	-
Supportive Skills	37700142	Computer Skills	2	0	4	3	BA-CS 99
	37700236	Advanced Mathematics	3	3	0	2	37700133
	35523504	Engineering Economics	2	2	0	1	35524501
			160	**102**	**124**	**135**	

University Requirements [ADDITIONAL UNITS]	BA-AR 99	Arabic 99	0	3	0	3	*Learners who pass the placement test will be exempted from the course.*
	BA-CS 99	Computer Skills 99	0	1	6	3	
	BA-ENG99	English 99	0	4	2	3	
			160	**110**	**132**	**144**	

* English Language Levels	A1-BA	Elementary Englsih	0	4	2	3	*Learners have to attend 2 levels out of this list based on their initial placement test result.*
	A2-BA	Pre-Intermediate English	0	4	2	3	
	B2-BA	Upper Intermediate English	0	4	2	3	
	C1-BA	Advanced English	0	4	2	3	
	C2-BA	Proficiency (English)	0	4	2	3	

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AUTOMOTIVE TECHNOLOGY ENGINEERING
BACHELOR'S DEGREE | 2022 Advisory Plan

YEAR 1

First Semester						Second Semester				
Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	
BA-ENG99	English 99	0	4	2		English Language Level 1	0	4	2	
37700110	Study Skills	3	3	0	37700111	Life Skills	3	3	0	
37700132	Calculus 1	3	3	0	37700153	Physics 2	3	3	0	
37700151	Physics 1	3	3	0	37700133	Calculus 2	3	3	0	
37700161	General Chemistry	2	2	0	35521214	Engineering Drawing	2	0	4	
37700152	Physics (1) Lab	1	0	2	35522212	Statics	3	3	0	
35521215	Engineering Workshops	1	0	2	35522419	Automotive Engineering	2	2	0	
35522301	Principles of Electrical and Electronic Circuits	2	2	0	37700162	General Chemistry Lab	1	0	2	
					35522302	Principles of Electrical and Electronic Circuits Lab	1	0	2	
	Total	**15**	**17**	**6**		**Total**	**18**	**18**	**10**	

YEAR 2

First Semester						Second Semester				
Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	
	English Language Level 2	0	4	2	BA-CS 99	Computer Skills 99	0	1	6	
37700114	Military Sciences	3	3	0	37700121	Intermediate English	3	4	2	
	Elective 1: University College Requirement	3				Elective 1: Program (Specialism) Requirements	3			
35522211	Mechanical Drawing	2	0	4	35522202	Engineering Measurments in Automobile Lab	1	0	2	
35522209	Science and Strength of materials and their applications in cars	2	2	0	35522210	Science and Strength of materials and their applications in cars/Lab	1	0	2	
35522420	Labrotary and Workshops of Automobiles	2	0	4	37700236	Advanced Mathematics	3	3	0	
35522201	Engineering Measurments in Automobile	2	2	0	35522401	Periodic and preventive maintenance of vehicles	3	0	6	
37700154	Physics (2) Lab	1	0	2	35523105	Internal Combustion Engines	2	2	0	
35522213	Dynamics and Mechanical Vibration	3	3	0	35523101	Thermal Engineering and its Applications	2	2	0	
	Total	**18**	**14**	**12**		**Total**	**18**	**12**	**18**	

YEAR 3

First Semester						Second Semester				
Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	
BA-AR 99	Arabic 99	0	3	0	37700413	Entrepreneurship skills	3	3	0	
37700412	Career Readiness	3	3	0		Elective 2: Program (Specialism) Requirements	3			
	Elective 2: University College Requirement	3			35523204	Vibrations and harshness in Automobiles Lab	2	0	4	
35523102	Thermal Engineering Lab	1	0	2	35523208	Vehicle Control Systems Lab	2	0	4	
35523103	Fluids and Hydraulic and Pneumatic Power Systems	2	2	0	35523104	Fluids and Hydraulic and Pneumatic Power Systems Lab	1	0	2	
35523106	Internal Combustion Engines Lab	1	0	2	35523304	Embedded systems and their applications in vehicles	2	2	0	
35523305	Automotive Electricity & Electronics	2	2	0	35523306	Automotive Electricity & Electronics Laboratory	2	0	4	
35523207	Vehicle Control Systems	2	2	0	35524413	Suspension, steering and driving systems in cars	2	2	0	
37700142	Computer Skills	2	0	4						
35523203	Vibrations and harshness in Automobiles	2	2	0						
	Total	**18**	**14**	**8**		**Total**	**17**	**7**	**14**	

YEAR 4

First Semester						Second Semester				
Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	
	Elective 3: University College Requirement	3				Elective 3: Program (Specialism) Requirements	3			
35523504	Engineering Economics	2	2	0	35524501	Fundamentals of Spare Parts Management, Maintenance Centers and Customer Service	3	2	2	
35524414	Automotive Suspension and Steering Systems Laboratory	1	0	2	35524412	Automotive Emission Control Laboratory (Diesel & Gasoline)	2	0	4	
35524406	Brake systems in cars	2	2	0	35524407	Automotive Brake Systems Laboratory	1	0	2	
35524411	Automotive Emission Control (Diesel & Gasoline)	2	2	0	35525416	Laboratory of Power Transfer Systems in Vehicles	2	0	4	
35524408	Diesel engines and modern fuel systems	2	0	4	35525405	Maintenance of the vehicle tire range	2	2	0	
35525415	Power Transfer Systems in Vehicles	2	2	0	35525303	Automotive Software Engineering	2	2	0	
35524402	Automobiles Diagnostics, Maintenance and Repair	2	0	4	35524206	Modeling, simulation and their applications in vehicles Lab	2	0	4	
35524205	Modeling, simulation and their applications in vehicles	2	2	0						
	Total	**18**	**10**	**10**		**Total**	**17**	**6**	**16**	

YEAR 5

First Semester						Second Semester				
Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	Unit Code	Unit Title	Credit Hrs.	Theory Hrs.	Prct. Hrs.	
35525417	Hybrid and Electric Vehicle Systems	3	3	0	35525602	Graduation Project (2)	3	0	6	
35525403	Vehicle Structures and care	1	0	2	35525701	Field Training	6	0	12	
35525601	Graduation Project (1)	3	1	4	35525418	Hybrid and Electric Vehicle Systems Laboratory	2	0	4	
35524409	Air Conditioning Control Systems in Vehicles	2	2	0	35524410	Automotive Air Conditioning Control Systems Laboratory	1	0	2	
	Total	**9**	**6**	**6**		**Total**	**12**	**0**	**24**	