

Southern Technical University الجامعة التقنية الجنوبية



*First Cycle – Bachelor's Degree (B.Sc.) -
Electromechanical Systems Techniques Engineering*
بكالوريوس - هندسة تقنيات النظم الكهروميكانيكية



جدول المحتويات | Table of Contents

1. Mission & Vision Statement	بيان المهمة والرؤية
2. Program Specification	مواصفات البرنامج
3. Program (Objectives) Goals	أهداف البرنامج
4. Program Student learning outcomes	مخرجات تعلم الطالب
5. Academic Staff	الهيئة التدريسية
6. Credits, Grading and GPA	الاعتمادات والدرجات والمعدل التراكمي
7. Modules	المواد الدراسية
8. Contact	اتصال

1. **Mission & Vision Statement**

Vision Statement

The primary vision of the electromechanical systems techniques engineering program is to provide graduates with the knowledge and skills necessary to apply current methods and technology to the development, design, operation, and management of electro-mechanical systems, particularly in those industries where automated systems are prevalent. Electromechanical systems techniques engineering Department seeks to be engineered edifice of excellence in the field of electromechanical engineering between the established universities worldwide.

Mission Statement

The programme specification provides and prepares a number of specialists in the field of electromechanical engineering at the level of cognitive distinct and processions to the rapid development of new developments in this field and a commitment to professional ethics in the field of work and society.

2. Program Specification

Programme code:	BSc-ESTE	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

The electromechanical systems techniques engineering program provides the basic undergraduate education required for a career as an electro-mechanical engineering technologist. The program emphasizes a breadth of knowledge in all engineering technology fields related to typical, highly-automated manufacturing, production, or assembly plant processes. The degree provides basic coverage in all major areas of technology involved in the operation and control of manufacturing and production processes.

Level 1 offers students the fundamentals courses required. Programme-specific core topics are covered at Levels 2, 3 and 4

3. Program Objectives

1. To prepare engineers efficiently specialists in the field of electromechanical engineering and able to develop their skills in the fields of engineering knowledge and proficient use of applications in the field of electromechanical specialized in the design and use of services related to their specialty.
2. Working on the creation of engineers on a jointly organized work, and enhancing communication with local and international engineering and scientific institutions and universities, in the responsibility of professional and ethical.
3. To develop the spirit of leadership among students and prepare them for their roles post-graduation.
4. To provide Governmental state institutions and private sector with specialists, experts and consultants, scientists, besides supporting scientific research centers and engineering projects with distinguished scientific cadres.
5. Work to develop and improve the efficiency and performance of scientific and administrative faculty staff and enable them to use the latest scientific methods, as well as the optimal use of the department facilities and possibilities to keep abreast of scientific developments and qualitative cooperation with international universities and guide it to serve the community and state institutions.

4. Student Learning Outcomes

Graduates of the Electro-Mechanical Engineering Technology program can show:

Outcome 1

An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities

Outcome 2

An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies

Outcome 3

An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes

Outcome 4

An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives

Outcome 5

An ability to function effectively as a member or leader on a technical team

Outcome 6

An ability to identify, analyze, and solve broadly-defined engineering technology problems

Outcome 7

An ability to apply written, oral, and graphical communication in both technical and non-technical environments

Outcome 8

An understanding of the need for and an ability to engage in self-directed continuing professional development

Outcome 9

An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity

Outcome 10

A knowledge of the impact of engineering technology solutions in a societal and global context.

Outcome 11

A commitment to quality, timeliness, and continuous improvement

5. Academic Staff

Baqer Turki | Ph.D. in Electrical power Engineering | Professor
Email: dr.baqer_turki@stu.edu.iq
Mobile no.: 07806084788

Warid Sayel Warid | Ph.D. in Electrical power Engineering | Assistant Professor
Email: 07831076733
Mobile no.: warid.sayel@stu.edu.iq

Shawqi Glalaf | Ph.D. in Physics | Professor
Email: shawki.muhammad@stu.edu.iq
Mobile no.: 07803174943

Ahmed Khafeef Obaid | Ph.D. in Mechanical Engineering | Lecturer
Email: akoab82@stu.edu.iq
Mobile no.: 07841273846

Rasheed Hameed Mazed | Ph.D. in Information Specialization and Quality Management of Services Assistant Professor
Email: rasheed.alhmel@stu.edu.iq
Mobile no.: 07830547780

Haider Hasan | Ph.D. in Mechanical Engineering | Lecturer
Email: hayder.mohammad@stu.edu.iq
Mobile no.: 07813539967

Yaseen Ali Sahood M.Sc in Electrical Engineering | Assistant Lecturer
Email: yaseen.sahood@stu.edu.iq
Mobile no.: 07808955494

Ali Hasan | M.Sc Computer science/information system | Assistant lecture
Email: ali.alsaadawi@stu.edu.iq
Mobile no.: 07811141350

Ahmed Alhchaimi | Ph.D in Network Security and Artificial Intelligence Engineering | Lecturer
Email: ahmed.alhchaimi@stu.edu.iq
Mobile no.: 07827047436

6. Credits, Grading and GPA

Credits

Southern technical university is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hrs student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
Number Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Calculation of the Cumulative Grade Point Average (CGPA)

1. The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

CGPA of a 4-year B.Sc. degree:

$$\text{CGPA} = [(1^{\text{st}} \text{ module score} \times \text{ECTS}) + (2^{\text{nd}} \text{ module score} \times \text{ECTS}) + \dots] / 240$$

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
STUTTC111	Fundamentals of Electrical Engineering	139	86	9	C	
STUTTC112	Engineering Materials	109	116	9	C	
STUTTC113	Mathematics	94	81	7	S	
STU103	Computer fundamentals /1	49	26	3	S	
STU102	Human Rights and Democracy	33	17	2	S	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
STUTTC121	Electronic Physics	109	116	9	C	
STUTTC122	Engineering Mechanics	94	81	7	C	
STUTTC123	Engineering and electrical Drawing	110	40	6	C	
STU101	English language/1	34	16	2	S	
STUTTC125	Workshops	94	56	6	B	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
STUTTC231	Electrical Machines	109	66	7	C	
STUTTC232	Thermodynamic and fluid	109	66	7	C	
STUTTC233	Electrical and Electronic Circuits	124	51	7	C	
STUTTC234	Advance Mathematics	79	21	4	S	
STU201	Fundamentals of computer/2	49	26	3	S	
STU203	The crimes of the Baath regime in Iraq	33	17	2	S	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
STUTTC241	Electrical devices and measurements	109	66	7	C	
STUTTC242	Electronics	109	91	8	C	
STUTTC243	Strength of Materials	109	91	8	C	
STUTTC244	Advanced Programming	79	46	5	S	
STU202	English Language/2	34	16	2	S	

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
STUTTC351	Electric Power Systems	94	56	6	C	
STUTTC352	Heat transfer and Hydraulic systems	94	56	6	C	
STUTTC353	Communications	94	31	5	C	
STUTTC354	Theory of Machines	94	31	5	C	
STUTTC355	control theory	64	36	4	C	
STUTTC356	control systems	64	36	4	C	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
STUTTC361	Synchronous and special Machines	124	51	7	C	
STUTTC362	Vibration Theory	109	41	6	C	
STUTTC363	Industrial Engineering	78	72	6	C	
STUTTC364	Electromechanical designs	78	72	6	C	
STUTTC365	Engineering and Numerical Analysis	63	62	5	S	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
STUTTC471	Power Electronics and Drive	94	81	7	C	
STUTTC472	Electromechanical Devices	94	81	7	C	
STUTTC473	Automation and Control	64	61	5	C	
STUTTC474	Computer Aided Design and Manufacturing	94	56	6	C	
STUTTC475	Renewable Energy	94	31	5	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
STUTTC481	Signals and systems	94	56	6	C	
STUTTC482	Microprocessors and Microcontrollers	94	56	6	C	
STUTTC483	Air condition and cooling systems	94	56	6	C	
STUTTC484	Engineering project	93	57	6	C	
STUTTC485	Programmable Logic controllers	94	56	6	C	

8. **Contact**

Warid Sayel Warid | Ph.D. in Electrical power engineering | Assistant Prof.

Email: warid.sayel@stu.edu.iq

Mobile no.: 07831076733

Program Coordinator:

Yaseen Ali Sahood | M. Sc in Electrical Engineering | Assistant lecturer

Email: yassen.sahood@stu.edu.iq

Mobile no.: 07808955494
