

SYLLABUS

Domain: Science and Technology

Field: Electronics

Specialty: Electronics

Level: L3 – Semester 5

Academic Year: 2025–2026

Course Identification

Course Title: Electronic Components Technology 2

Teaching Unit: UED 3.1

Credits: 1 **Coefficient:** 1

Total weekly workload: 1h30

- Lecture hours per week: 1 hour 30 minutes
- Tutorial hours per week: /
- Practical work hours per week: /

Course Coordinator

Course Instructor: Dr. Djamila Boumelita

Academic Rank: MCB

Office: (Block, Office number)

Email: bm.djamila@yahoo.fr

Class Time and Mode: Saturday from 08:00 to 09:30 — Online session.

The videoconference link is:

<https://meet.google.com/tmn-svyf-hvu?authuser=0>

Course Description

Learning Objectives:

This course is a continuation of the same subject taught in Semester 4. It aims to review specific electronic devices commonly encountered in electronic circuits. The goal is to demystify these devices by presenting their general characteristics and typical applications.

Recommended Prior Knowledge: Fundamentals of Electronic Components Technology 1.

Course Content

Chapter 1: Power Supply Design (1 Week)

Batteries and mains power, transformers, rectification, filtering, voltage regulation, variable power supplies, constant-current supplies, integrated regulators (78xx, 79xx, LM317).

Chapter 2: Power Active Components (2 Weeks)

Operating principles, characteristics, symbols and applications of SCRs, GTOs, triacs, diacs, FETs, UJT.

Chapter 3: Optoelectronic Components (2 Weeks)

LEDs, LCDs, photoresistors, photodiodes, phototransistors, photomultipliers, optocouplers, IR applications.

Chapter 4: TTL Logic Family Circuits (2 Weeks)

TTL characteristics, open-collector gates, electrical characteristics, noise immunity, tri-state outputs, Schmitt triggers.

Chapter 5: CMOS Logic Family Circuits (1 Week)

P-MOS, N-MOS, CMOS logic, electrical characteristics, TTL-CMOS interfacing.

Chapter 6: Special Logic Integrated Circuits (2 Weeks)

Decoders, multiplexers, comparators, 7-segment converters, flip-flops, counters, timers (555).

Chapter 7: Other Specific Components and Accessories (2 Weeks)

Relays, microphones, loudspeakers, buzzers, quartz oscillators.

Chapter 8: Component Documentation (1 Week)

Different types of documentation (application notes, datasheets, catalogs, online resources, etc.), equivalences, and examples of the content found in datasheets for the most commonly used components.

Assessment Methods

Type of Assessment	Weighting (%)
Exam	100%
Quiz / Mini-Test	0%
Total	100%

References & Bibliography

1. R. Besson – Electronique à transistors et à circuits intégrés (1979)
2. R. Besson – Technologie des composants électroniques
3. M. Archambault – Formation pratique à l'électronique (2007)
4. B. Woollard – Apprivoiser les composants (1997)
5. P. Maye – Aide-mémoire des composants électroniques (2010)
6. P. Mayeux – Apprendre l'électronique (2006)
7. R. Mallard – L'électronique pour les débutants (2012)
8. F. Cerf – Les composants optoélectroniques (2000)



Listes des étudiants

N°	Nom	Prénom	Section	Groupe	Signature
1	Bayfiala	omar amine	ELN	ELNB	
2	Sedairia	Anis	ELN	ELNB	
3	Boudjoudja	Wassim	ELN	ELNB	
4	AMARA	OUSSAMA	ELN	GB	
5	ABDELAOU	Hadou	ELN	GB	
6	Bellefali	MOHAMED TAHAR	ELN	GB	
7	Delaili	Mohamed Lamine	ELN	GB	
8	Chelli	Zakaria	ELN	B	
9	Mahmadi	Wassim	ELN	B	
10	Hogem	Med Raid	ELN	B	
11	Zakane	Azzeddine	ELN	B	
12	ARRIF	Aymen Koussa	ELN	B	
13	MONAEM	TASHIME NOURELDOUNIA	ELN	GA	
14					
15	HADI	BILEL	ELN	GA	
16	Torki	Sadek Borhan	ELN	GA	
17	Omame	Hanane	ELN	GA	
18	Ghadbane	Nourhene	ELN	GA	
19	Habata	Mohamed	ELN	GA	
20	Beddeli	Badreddine	ELN	GA	
21	Aloui	Lana Nedjmeddine	ELN	GA	
22	Chadja	Med Radd Nazim	ELN	GA	
23	Belloulji	Abd Errahim	ELN	GA	
24	Attien	Achraf	ELN	GA	
25	Hamza	Med Bacheddine	ELN	GA	
26	Hammeri	Chouail	ELN	GA	
27	BENNOVAR	NOUREL ISLEM	ELN	GA	
28	Khemmar	Mohamed	ELN	GA	
29	Bengala	Chama	ELN	GB	
30	Boughfara	Lamis	ELN	GB	
31	Djaber	Chahed	ELN	GB	
32	Khireddine	Imene	ELN	GB	
33	KAHLOUCHI	IYED	ELN	GB	
34	Chaharache	Sel EL ISLEM	ELN	GB	
35	Bancharis	Hamza	ELN	GB	
36					

37	<i>Doulaloui</i>	<i>Zakaria</i>	<i>26</i>		
38	<i>Houmen</i>	<i>Zaharia</i>	<i>14</i>		
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