GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Analog Electronic Circuits - laboratory, PG_00048068		
Field of study	Electronics and Telecommunications		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	5	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department Of Microelectronic Systems -> Faculty Of Electronics Telecommunications And Informatics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Jacek Jakusz	
	Teachers	dr hab. inż. Jacek Jakusz	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	30.0	0.0	0.0	30

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	30	2.0	18.0	50

Subject objectives

Strengthening the knowledge gained during the lecture and the practical skills of measurement.

Learning outcomes

Course outcome	Subject outcome	Method of verification

Subject contents	1. Field Programable Analog Array 2. Basic MOS amplifier circuits 3. Bipolar operational amplifier 4. Negativ feedback 5. Broadband bipolar amplifiers 6. IC analog filters C-switched 7. Cascode - implementation of systemic, properties 8. DC differential amplifier 9. Pragrammable continuous-time CMOS analog filters 10. Selective amplifiers 11. Basic structures of oscillators (Wien's and Colpitt's) 12. Synchronized generator (PLL) 13. Rectifier diode and voltage stabilizer 14. DC/DC buck converter 15. Transformerless AC/DC converter with power factor corrector
Prerequisites and co-requisites	Positiv evaluation of the lecture

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Practical exercises	60.0%	100.0%

Recommended reading

Basic literature	Guzinski A: "Linear electronic analog circuits, WNT, 1994 Tietze U., Schenk Ch.: Semiconductor circuits, WNT 2009 Sedra A.S., Smith K.C.: "Microelectronic circuits", Oxford University Press, New York, Oxford, 2004
Supplementary literature	No recomendations
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable