

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF PHYSICS
PHYSICS 308 (Electronics)
Term 211

INSTRUCTOR

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COURSE DESCRIPTION

PHYS 308 Electronics (3-3-4)

Physics of semi-conductors; junction transistors; amplifiers; feedback circuits; oscillators; nonlinear devices; digital electronics; digital logic; counters and registers; analog-to-digital converters.

Prerequisite: PHYS 201

COURSE OBJECTIVES

To be able to analyze and design analog and digital electronic circuits.
To be able to use PSPICE to simulate electronic circuits.
To be able to design, construct, and test analog and digital electronic circuits.

TEXTBOOK

Electronic Principles by A. Malvino and D. Bates, 8th Ed.

REFERENCES

- Introductory Electronics for Scientists and Engineers by D.L. Eggleston.
- Fundamentals of Electrical Engineering by L.S. Bobrow.
- Digital Systems Principles and Applications by N.S. Widmer, G.L. Moss, R.J. Tocci.
- Digital Electronics Principles and Applications by Roger Tokheim.
- Digital Electronics Demystified by Myke Predko.
- Analog Integrated Circuit Design by T.C. Carusone, D.A. Johns, K.W. Martin.
- Art of Electronics by Paul Horowitz and Winfield Hill.
- Basic Circuit Analysis by John O'Malley.
- Basic Electronics. An Introduction to Electronics for Science Students by C.A. Meyer.
- Electronic Devices by T.L. Floyd.
- Electronics and Communications by Martin Plonus.
- Foundations of Analog and Digital Electronic Circuits by Anant Agarwal and J.H. Lang.
- Fundamental of Electric Circuits by C.K. Alexander and M.N.O. Sadiku.

GRADING POLICY

Letter Grades Distribution	
$A^+ \geq 80$	$53 \leq C < 60$
$77 \leq A < 80$	$47 \leq D^+ < 53$
$73 \leq B^+ < 77$	$41 \leq D < 47$
$67 \leq B < 73$	$F < 41$
$60 \leq C^+ < 67$	

Lab work: 15%

Homework: 15%

First Major Exam: 15%

Second Major Exam: 15%

Final Exam: 25%

Term Project: 15%