Electronic Circuits
Elektronik Devreler

Prof. Dr. Nizamettin AYDIN
naydin@yildiz.edu.tr
http://www.yildiz.edu.tr/~naydin

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Course Details

- Course Code : 0112622
- Course Name: Electronic Circuits
  (Elektronik Devreler)
- Instructor : Nizamettin AYDIN

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Assesment

Method	Quantity	(%)
Quiz	-	05?
Homework	2	10?
Lab	5	20
Midterm Exam(s)	2	25
Final Exam	1	36
Attendance& participation	-	04

– *Attendance assessment will be calculated as*:
$(0.1 \times Attendance - 6)$ for $Attendance \geq 60$

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Rules of the Conduct

- No eating /drinking in class
  – *except water*
- Cell phones must be kept outside of class or switched-off during class
  – *If your cell-phone rings during class or you use it in any way, you will be asked to leave and counted as unexcused absent.*
- No web surfing and/or unrelated use of computers,
  – when computers are used in class or lab.

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Rules of the Conduct

- You are responsible for checking the class web page (http://www.yildiz.edu.tr/~naydin/na_ElDev.htm) often for announcements.
- Academic dishonesty and cheating will not be tolerated and will be dealt with according to university rules and regulations
  – *Presenting any work, or a portion thereof, that does not belong to you is considered academic dishonesty.*

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Attendance Policy

- The requirement for attendance is 60%
  – *Hospital reports are not accepted to fulfill the requirement for attendance.*
  – *The students, who fail to fulfill the attendance requirement, will be excluded from the final exams and the grade of F0 will be given.*
- Link for the rules and regulations:
  http://www.ogi.yildiz.edu.tr/index1.php?s=0&k=60&f=index1

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Course Outline…

- Electronic systems
  - Introduction, Electronic systems, Distortion and noise, System design.
- Sensors and actuators
  - Describing sensor performance, Sensors, Actuators, Laboratory measuring equipment.
- Control and feedback
  - Open-loop and closed-loop systems, Automatic control systems, Feedback systems, Negative feedback, The effects of negative feedback
- Operational amplifiers
  - An ideal operational amplifier, Basic operational amplifier circuits, Other useful circuits, Real operational amplifiers, Selecting component values, Effects of feedback on op-amp circuits

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…Course Outline…

- Diodes
  - Diode Characteristics, Diode applications
- Transistors
  - Transistor circuits, DC analysis, AC analysis
- FETs
  - FET circuits, DC analysis, AC analysis
- Power Amplifiers
- Digital devices
  - Gate characteristics, Logic families, TTL, CMOS, Interfacing, Noise and EMC in digital systems

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…Course Outline

- Linear Digital ICs
  - Comparators, D/A converters, Timers, Voltage-controlled oscillators, PLL circuits, Interface circuits
- Feedback and Oscillator Circuits
- Power Supplies
- Other Two-Terminal Devices
  - Schottky diode, Varactor diode, Power diodes, Tunnel diode, Photodiode, Photoconductive cells, IR emitters, Liquid crystal displays, Solar cells, Thermistors

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Some recommended books…

- **Electronic Devices and Circuit Theory** by Robert L. Boylestad and Louis Nashelsky
- **Electronics - A Systems Approach** by Neil Storey
- **Electronic Circuits - Fundamentals & Applications** by Michael H. Tooley
- **The Art of Electronics** by Paul Horowitz and Winfield Hill
- **Schaum's Outline of Electronic Devices and Circuits** by Jimmie J. Cathey
- **Electronic Devices and Circuits** by Theodore F. Bogart, Jeffrey S. Beasley, and Guillermo Rico

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…Some recommended books

- **Electronic Devices and Circuits: Discrete and Integrated** by Denton J. Dailey
- **Electronics Fundamentals: Circuits, Devices & Applications** by Thomas L. Floyd and David Buchla
- **Electronic Devices and Circuits I** by A.P.Godse and U.A.Bakshi
- **Electronic Devices: Circuits and Applications** by William D. Stanley
- **Electronic Devices and Circuits** by David A. Bell
- **Microelectronic Circuits** by Adel Sedra and Kenneth Smith

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