Summer 2019

EEO 304
Electronic Instrumentation and Operational Amplifiers

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INTRODUCTION

Design of electronic instrumentation: structure of basic sensors and measurement systems, transducers, analysis and characteristics of operational amplifiers, analog signal conditioning with operational amplifiers, sampling, multiplexing, A/D and D/A conversion; digital signal conditioning, data input and displays, and automated measurement systems.

COURSE CONTENT and SYLLABUS:

1	Operational Amplifier Fundamentals
1.1	Circuits with Resistive Feedback
1.2	Static Op Amp Limitations
1.3	Dynamic Op Amp Limitations
1.4	Noise
2.	Technology of Electrical Measurements
2.1	Electrical Sensors
2.2	Instrumental circuits
3	Application of Operational Amplifier
3.1	Active Filters
3.2	Nonlinear Circuits
3.3	Signal Generators
3.4	Voltage References and Regulators
3.5	D-A and A-D Converters

During the semester students will have 10 single problem home works and a Final examination.
Prerequisite: ESE 372

Textbook: S. Franco, Design with Operational Amplifiers and Analog IC, McGraw-Hill, (Second, Third or Fourth) Edition, 2002...2015

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Total sum of Homeworks in final grade - **30%**
Final Test in final grade - **70%**

From	To	Grade
96	100	**A**
93	96	**A-**
90	93	**B+**
84	90	**B**
77	84	**B-**
69	77	**C+**
60	69	**C**
50	60	**C-**
Below 50		**Fail**