

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Ministry of Higher Education  
King Fahd University of Petroleum & Minerals  
Electrical Engineering Department



وزارة التعليم العالي  
جامعة الملك فهد للبترول والمعادن  
قسم الهندسة الكهربائية

## Department of Electrical Engineering

### List of EE Electives:

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|---|----------------|
| <b>EE 400 Telecommunication Networks</b>  | <b>(3-3-4)</b> |
| <b>Prerequisites:</b> EE 315, ICS 103 (Not to be taken for credit with COE 442)                         |                |
| <b>EE 402 Control Engineering II</b>  | <b>(3-0-3)</b> |
| <b>Prerequisite:</b> EE 380   |                |
| <b>EE 403 Semiconductor Devices</b>   | <b>(3-0-3)</b> |
| <b>Prerequisites:</b> PHYS 203, EE 203  |                |
| <b>EE 405 Microwave Transmission</b>  | <b>(3-3-4)</b> |
| <b>Prerequisite:</b> EE 340   |                |
| <b>EE 407 Microwave Engineering</b>   | <b>(3-3-4)</b> |
| <b>Prerequisite:</b> EE 340   |                |
| <b>EE 410 Digital Image Processing</b>  | <b>(3-0-3)</b> |
| <b>Prerequisite:</b> Senior standing or consent of instructor (Not to be taken for credit with COE 487) |                |
| <b>EE 415 Analog Integrated Circuits Analysis and Design</b>  | <b>(3-0-3)</b> |
| <b>Prerequisite:</b> EE 303   |                |
| <b>EE 416 Analog Filter Design</b>  | <b>(3-0-3)</b> |

**Prerequisites:** EE 205, EE 303

**EE 417 Communication Engineering II (3-0-3)**

**Prerequisites:** EE 315, EE 370

**EE 418 Introduction to Satellite Communications (3-0-3)**

**Prerequisites:** EE 340, EE 370

**EE 420 Optical Fiber Communications (3-3-4)**

**Prerequisites:** EE 340, EE 370

**EE 422 Antenna Theory (3-3-4)**

**Prerequisite:** EE 340

**EE 429 Microcomputer Organization (3-3-4)**

**Prerequisite:** EE 390

**EE 430 Information Theory and Coding (3-0-3)**

**Prerequisites:** EE 315, EE 370

**EE 432 Digital Control Systems (3-3-4)**

**Prerequisite:** EE 380

**EE 433 Applied Control Engineering (2-3-3)**

**Prerequisite:** EE 380 (cant be taken with SE 418)

**EE 434 Industrial Instrumentation (2-3-3)**

**Prerequisites:** EE 200, EE 303, EE 380

**EE 437 Electrical Installation (2-3-3)**

**Prerequisite:** EE 360

<b>EE 445 Industrial Electronics</b>	<b>(3-3-4)</b>
<b>Prerequisite:</b> EE 303	
<b>EE 446 Programmable Logic Controllers</b>	<b>(2-3-3)</b>
<b>Prerequisite:</b> Senior standing	
<b>EE 455 Analog Communication Electronics</b>	<b>(3-3-4)</b>
<b>Prerequisites:</b> EE 303, EE 370	
<b>EE 456 Digital Communication Electronics</b>	<b>(3-3-4)</b>
<b>Prerequisites:</b> EE 303, EE370	
<b>EE 460 Power Electronics</b>	<b>(3-3-4)</b>
<b>Prerequisite:</b> EE 360	
<b>EE 462 Electrical Machines</b>	<b>(3-3-4)</b>
<b>Prerequisites:</b> EE 360, EE 380	
<b>EE 463 Power System Analysis</b>	<b>(3-0-3)</b>
<b>Prerequisite:</b> EE 360	
<b>EE 464 High Voltage Engineering</b>	<b>(2-3-3)</b>
<b>Prerequisite:</b> EE 360	
<b>EE 465 Power Transmission &amp; Distribution</b>	<b>(3-0-3)</b>
<b>Prerequisite:</b> EE 360	
<b>EE 466 Power System Protection</b>	<b>(3-0-3)</b>
<b>Prerequisite:</b> EE 360	
<b>EE 470 Introduction to Optical Electronics</b>	<b>(3-0-3)</b>
<b>Prerequisites:</b> PHYS 203, EE 340	

**EE 499 Special Topics in Electrical Engineering**

**(3-0-3)**

**Prerequisite:** Senior standing or consent of instructor

## **List of Technical Electives for EE Students:**

<b>Course Number</b>	<b>Course Title</b>
<del>COE 353</del>	<del>Fundamentals of Computer Communications</del>
COE 360	Principles of VLSI Design
COE 446	Mobile Computing
COE 451	Computer and Network Security
ICS 481	Neural Networks
ICS 253	Discrete Structures I
MATH 232	Introduction to Sets and Structures
ME 204	Thermodynamics II
PHYS 211	Optics
PHYS 212	Modern Physics
PHYS 215	Introduction to Astronomy
PHYS 261	Energy
STAT 361	Operations Research I
SE 312	Instrumentation ( cant be taken with EE 434)
SE 432	Digital Signal Processing (cant be taken with EE 406)
SE 418	Industrial process Control (cant be taken with EE <del>433</del> )