**بسم الله الرحمن الرحيم**

**University: Diyala University**

**College: College of Engineering**

**Department:Electronic Engineering**

**Stage:Second**

**Lecturer name**

**Qualification: Ph.D.**

**Place of work: Electronic Dept.**

**Republic of Iraq**

**The Ministry Of Higher Education**

**& Scientific Research**



|  |  |
| --- | --- |
| Course Instructor | **Rokan Ali Ahmed** |
| E-mail | **Rokan\_L4@yahoo.com** |
| Title | **Analogue Electronics I** |
| Course Coordinator |  |
| Course Objective | The objective of this subject is to make the students ready to understand and comprehend the scientific theories and their applications related to design simple analog circuits to achieve specified performance levels. |
| Course Description | Physical electronics underlying the operation of electronic devices. Diodes, diode models, and diode circuits are discussed. Transistors(BJT and FET) , transistor construction , and transistor circuits are included with DC, and small signal analysis of transistor amplifiers. Compound transistor configurations. Other essential parts of analog electronics circuit design such as basic tuned amplifier and introduction to four layer device will complete the course . |
| Textbook | Electronic Devices and Circuit Theory by Robert Boylestad and Louis Nashelsky  |
| Course Assessments | First semester | Second semester | Lab. | Final Exam |
| **20 %** | **20 %** | **10%** | **50 %** |
| General Notes | Type here general notes regarding the course |

**University:Diyala University**

**College: College of Engineering**

**Department:Electronic Engineering**

**Stage:**

**Lecturer name:**

**Qualification: Ph.D.**

**Place of work: Electronic Dept.**

**Republic of Iraq**

**The Ministry Of Higher Education**

**&Scientific Research**



**Course Weekly Outline**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Week | Date | Topics Covered | Lab. Experiment Assignments | Notes |
| 1 | 27/9/ | Bipolar Junction Transistors(BJT) |  |  |
| 2 | 4/10/ | Construction and operation |  |  |
| 3 | 11/10/ | Configurations andCharacteristics |  |  |
| 4 | 18/10/ | Operating regions and load–lines |  |  |
| 5 | 24/10/ | DC Biasing Circuits andStability |  |  |
| 6 | 1/11/ | DC Biasing Circuits andStability |  |  |
| 7 | 8/11/ | DC Biasing Circuits andStability |  |  |
| 8 | 15/11/ | DC Biasing Circuits andStability |  |  |
| 9 | 22/11/ | Power Dissipation, andswitching transistors |  |  |
| 10 | 29/11/ | Power Dissipation, andswitching transistors |  |  |
| 11 | 6/12/ | Transistor EquivalentCircuits |  |  |
| 12 | 12/12/ | Transistor EquivalentCircuits |  |  |
| 13 | 20/12/ | Voltage gain, current gain,input and outputImpedance |  |  |
| 14 | 27/12/ | Analysis of CE, CB andCC configurations.. |  |  |
| 15 | 3/1/ | Analysis of CE, CB andCC configurations. |  |  |
| 16 | 10/1/ | Analysis of CE, CB andCC configurations. |  |  |
| Mid Year Holiday |
| 1 | 21/2/ | Construction andcharacteristics of JFET |  |  |
| 2 | 28/2/ | MOSFET construction andcharacteristics, CMOS |  |  |
| 3 | 6/3/ | DC Biasing Circuits |  |  |
| 4 | 13/3/ | DC Biasing Circuits |  |  |
| 5 | 20/3/ | Amplifier JFET / MOSFET |  |  |
| 6 | 27/3/ | Small Signal ModelAnalysis |  |  |
| 7 | 3/4/ | Analysis of CS, CG andCD configurations |  |  |
| 8 | 10/4/ | Analysis of CS, CG andCD configurations |  |  |
| 9 | 17/4/ | Analysis of CS, CG andCD configurations |  |  |
| 10 | 24/4/ | Analysis of CS, CG andCD configurations |  |  |
| 11 | 1/5/ | Types of multistageamplifier |  |  |
| 12 | 8/5/ | Cascade and cascodeamplifier's, Darlingtonamplifier |  |  |
| 13 | 15/5/ | Transformer-coupledAmplifiers |  |  |
| 14 | 22/5/ | single tuned amplifiers,tapped and double-tunedamplifiers |  |  |
| 15 | 29/5/ | Description and operationof silicon controlledrectifier |  |  |
| 16 | 2/6/ | DIAC, thyristor, GTO, andTRIAC |  |  |

**INSTRUCTOR Signature: Dean Signature:**