SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: ELECTRONIC FUNDAMENTAL 11

Code No.: ELN101-5

Program: ELECTRICAL/ELECTONIC/TECHNICIAN

Semester: 11

Date: JUNE, 1984

Author: W. FILIPOWICH

New: _____ Revision: X

APPROVED: L.P. Arazietto
Chairperson

'84/06/06
Date

ELECTRONIC FUNDAMENTALS 11 — Course Name

ELN101-5 — Course Number

PHILOSOPHY/GOALS:

This course is intended to provide a soldid background in fundamentals that is necessary for the study of more specialized aspects of electronics The student will expand his knowlege gained in Electronic Fundamentas 1 (ELN100) with the continuation of amplifier analysis. Theoresticial and practical analysis of voltage and power amplifiers, including equivalent circuits, coupling methods, classes of operation, will be covered as well as aBJT, JFET, MOSFet and OPAMP devices. An introduction into feedback an audio oscillatores will also be covered and also related lab work with emphasis on testing, troubleshooting and technical report writing.

METHOD OF ASSESSEMENT (GRADING METHOD

1. Testing in relation to the theory objectives will make up approximately 60% of the final mark and will consist of at least two major tests plus short quizzes.

2. Testing in relation to the practical (lab) objectives will make up approximately 40% of the final mark and will consist of a technical report, lab logbook reports and practical assessments, which will include lab attendance, participation, performance, attidtude, etc.

TEXTBOOK(S)

Electronic Principles - 3rd Rd. - Malvino (McGraw-Hill)

REFERENCE:

Transistor Circuit Approximations - 3rd Ed. - Malvino (McGraw-Hill)

Fundamentals of Electronics - 3rd Ed. - Luych

General Electronic Circuits - 2nd Ed. - DeFrance (Holt-Rinehart)

Electronic Devices and Circuits - 3rd Ed. Boylestad, Nashelsky (Prentice-Hall)

Electronics Devices and Circuits - 2nd Ed. - Bell (Reston)

BLOCK PERIODS	PERIODS Theory-Lab	TOPIC DESCRIPTION	REFERENCE
1		Small-signal Transistor Amplifiers	Text - Electronic Principles, 3rd Ed., Malvino
11		Cascaded and Power Amplifiers 1. Amplifier Coupling Methods 2. Analysis of Direct Coupled Amplifiers 3. Classes of Operation 4. Power and Efficiency Calculations 5. AC Analysis of Class A and Class B Power Amplifiers 6. h Parameters 7. Decibels and Power Gain 8. Frequency Effects	Chapter 8, 9, 14
111		Field Effect Transistors 1. Principles of Operation of JFET and MOSFET 2. Characteristic curves and parameters 3. Biasing Techniques 4. Common-Source and Common-Drain Circuit Analysis 5. Fet applications	Chapters 12, 1
IV		Operational Amplifiers 1. Differential Amplifier - operation and Analysis 2. Operational Amplifer - operation - characteristics - parameters - linear inverting and non-inverting amplifiers - band width 3. Feedback 4. Filter Networks	Chapters 15, 16