

COURSE SYLLABUS

ENDT 1345
Applied Electronics and Instrumentation
McLennan Community College

Revised for 2009-10

Applied Electronics and Instrumentation
ENDT 1345
SYLLABUS

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Course Description:

Provides theory and application of electrical concepts, recording techniques, data analysis, and descriptions. Also includes electronics and instrumentation associated with the conventional electroencephalograph such as the power supply, contribution of electrodes, differential amplifier concepts, filters (low frequency, high frequency and 60-Hz filters), the writer unit, electrical output, electrical safety, and standards for clinical electroencephalographs. Also covers ambulatory monitoring and digital electroencephalography.

Semester hours: 3 lecture:1 lab

General Course Objective:

Students will be able to apply theory, concepts, and skills pertaining to applied electronics and instrumentation associated with electroneurodiagnostics and polysomnography technology.

SCANS: The Secretary's Commission for Achieving Necessary Skills are incorporated into the learning outcomes and activities.

SCANS Competencies:

Resources: Allocates time (C1)

Information:

- Acquires and evaluates information (C5)
- Interprets and communicates information (C7)
- Uses computers to process information (C8)

Interpersonal:

- Participates as a member of a team (C9)
- Works with cultural diversity (C14)

Technology:

- Selects technology (C18)
- Applies technology to task (C19)
- Maintains and troubleshoots technology (C20)

SCANS Foundation Skills:

Basic skills:

- Reading (F1)
- Writing (F2)
- Arithmetic(F3)
- Listening (F5)

- Speaking (F6)
- Problem solving (F9)
- Seeing things in the mind's eye (F10)
- Reasoning (F12)

Personal qualities:

- Responsibility (F13)
- Self esteem (F14)
- Social (F15)
- Self management (F16)
- Integrity/ Honesty (F17)

Course Outline:

Basic Electronics
 Current Flow
 Amplifiers
 Emergency Preparedness
 Filters
 Filter Effects
 Polarity Convention
 Polysomnography Settings
 Safety
 Resolution
 Digital Acquisition
 Analog to Digital
 Other Instrumentation
 Signal Acquisition and Processing

TEXTBOOKS:

1. Fisch and Spehlmann's EEG Primer, Bruce J. Fisch, 3rd Ed.
2. Blackboard.
3. Primer of EEG with a Mini Atlas, A. James Rowan and Eugene Tolunsky, 2003.
3. Current Practice of Clinical Electroencephalography, Ebersole and Pedley, Lippincott, 3rd ed., 2003.
4. The Little Black Book of Neurology, Zaidat and Lerner, 5th Ed. 2008
5. Atlas of EEG Patterns, John Stern, 2005, Lippincott

Grading System:

The grading will be based on a percentage system. Each assignment will be worth a total of 100%. The grade the student receives on any assignment will be the percent correct on that assignment. The grade scale will be as follows:

90 -100% = A	75 – 79% = C
80 - 89% = B	70 – 75% = D

69% and below = F

At the end of the semester the average percentage grade that the student obtained in the semester will be the student's grade in the course. **The student must obtain a C or better in all courses within the Electroneurodiagnostics and Polysomnography program (all courses with the rubrics ENDT and PSGT) to successfully complete the course requirements for the program. NO grades will be given over the phone.**

Evaluation:

Comprehensive Final Exam—20%
Exams—70%

Notebooks—5%
Participation—5%

Class Attendance Policy:

Regular and punctual attendance is expected of all students, and the instructor will maintain a complete record of attendance. Students will be counted absent from class meetings missed, beginning with the first official day of classes. Students, whether present or absent, are responsible for all material presented or assigned for a course and will be held accountable for such materials in the determination of course grades.

Absence from **10 percent** of scheduled lecture and/or laboratory meetings will be taken as evidence that a student does not intend to complete the course. Unless the instructor has reason to believe the student will complete the course, the student will be withdrawn from the course with a grade of W. The instructor may reinstate the student if the instructor is satisfied that the student will resume regular attendance and will complete the course.

If the student's 10 percent absences are reached after the official drop date, the instructor may assign a W, if the student is passing and requests to be withdrawn. However, if a student who is not passing reaches the 10 percent point after the official drop date, the student will receive an F. In extenuating circumstances, the instructor may assign a W to a student who is not passing.

Each absence will count toward attendance requirements. Students will be permitted to make up classes and assignments missed due to absences caused by (1) authorized participation in official College functions, (2) personal illness, or (3) an illness or death in the immediate family. Also, the instructor has the prerogative of determining whether a student may make up work missed due to absences for other reasons. It is the student's responsibility to inform the instructor of the reason for the absence and to do so in a timely fashion.

Tardiness:

Tardiness is a distraction and disrespectful to fellow students and the instructor. Students are required to be on time. For each minute late the student will have

deducted points from their final grade ie. If the student arrives at 0916 and start time was 0900 then 16 points will be deducted from their grade.

BEEPERS, CELLULAR PHONES AND PERSONAL PHONE CALLS

All beepers, pagers and cellular phones must be turned off at the beginning of class. The student will be notified of an emergency telephone call by the health careers secretary. No personal phone calls (non-emergency) will be accepted.

STUDENTS WITH DISABILITIES

In accordance with the requirements of the Americans with Disabilities Act (ADA) and the regulations published by the United States Department of Justice 28 C.F.R. 35.107(a), MCC's designated ADA co-coordinators, Mr. Gene Gooch, Vice President-Finance and Administration and Dr. Santos Martinez, Vice President, Student Services shall be responsible for coordinating the College's efforts to comply with and carry out its responsibilities under ADA. Students with disabilities requiring physical, classroom, or testing accommodations should contact Marc Sweatt, Disability Specialist, at 299.8122 or msweatt@mclennan.edu.

ACADEMIC DISHONESTY

As per the Highlander:

The term "cheating" includes, but is not limited to: (1) use of any unauthorized assistance in taking quizzes, tests or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems or carrying out other assignments; or (3) the acquisition, without permission, of tests or other academic material belonging to a member of the MCC faculty or staff. The term "plagiarism" includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials. Acts of dishonesty, including, but not limited to, the following: a. Cheating, plagiarism or other forms of academic dishonesty. b. Furnishing false information to any MCC official, faculty member, or office. c. Forgery, alteration or misuse of any MCC document, record or instrument of identification. d. Tampering with the election of any MCC recognized student organization.

All assignments or assigned projects to be turned in must be in the following format:

Double Spaced
Size 12 Font

Times Roman Style
APA Format

Any papers submitted not complying with the above requirements will be considered incomplete and graded as a "0 ". Any papers submitted late will be an automatic 20 point reduction in grade, i.e. paper grade will start at 80. It is up to the discretion of the instructor as to whether or not the paper will be accepted late.

Subject to Change Disclaimer

The policies, regulations, procedures, and fees associated with this program are subject to change without prior notice, if necessary, to keep College and program policies in compliance with State and Federal laws and/or with rules related to the program's accrediting agency.

The College and the program reserve the right to change curricula, rules, fees, and other requirements, of whatever kind, affecting students in any way. The provisions of this document do not constitute a contract, express or implied, between any applicant, student, faculty or staff member and McLennan Community College or this program.