電儀表學 (Electronic Instruments)

Textbook:
1. Elements of Electronic Instrumentation and Measurement (Joseph J. Carr) 新月
2. Electronic Instrumentation and Measurements, 2nd ed., David A Bell

References:
1. Electrical Measurement, Signal Processing, and Displays - John G. Webster, 2004
3. Principles of Measurement and Instrumentation, 2nd ed. - AS Morris
4. Electronic Instruments and Measurements, 2nd ed. - L. D. Jones and A.F. Chin
5. Electronic Test Instruments, 2nd ed. - Robert A. Witte (Ch. 5, 8, 9)
6. Electronic Instruments and Measurements, 2nd ed. - L.D. Jones and A.F. Chin (Ch. 15)

Class Meeting Time: Tuesday 09:10am ~ 10:00am, Friday 10:10am~12:00pm
Instructor: Chin-Lung Yang (楊慶隆. 電機所儀器系統與晶片組)  Office: 92609 EE Building
Office Phone: 06-2757575 ext. 62422  E-mail: cyang@mail.ncku.edu.tw
Handouts: All handouts can be downloaded on Internet at http://myweb.ncku.edu.tw/~cyang/courses/instrum/index.htm

Office Hours: Monday 10:30-11:30PM, Wednesday 3:00-5:00PM; TA Wednesday/Friday 1:00-2:00PM
Preparing Time: 9 hours
Grading: Participation: 10%; Quiz:20%; Two Mid-term Exams:40%; Final Exam:30%

(I) Course Syllabus:
Lecture 1: Introduction to Electronic Instrumentation and Measurement
Lecture 2: Some Basic Measurement Theory (Measurement Errors)
Lecture 3: dc and ac Deflection Meter Movements
Lecture 4: Bridge Circuits
<<<<<< Mid-term Exam-Chapters 1~4 + Supplements, in 29th October~2nd November
Lecture 5: Electronic Meters
Lecture 6: The Basics of Digital Instruments
Supplements A: Power Supply
Supplements B: Sensors
Supplements C: Low, High, and Precise Resistance Measurements
(Chapter 1~6 Taught in each classroom by 3 teachers).
<<<<<< Mid-term Exam-Chapters 4~6 + Supplements, in 12th ~ 16th November
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(Chapter 10~15 Taught together in ONE classroom by one teacher alternately).
Chapter 8: Digital Oscilloscope (Prof. Lin) (B1 迅慧講堂)
Chapter 9: Spectrum Analyzer (Prof. Lin)
Chapter 10: High-Speed I/O and Logic Analyzer (Prof. Yang)
Chapter 11: NI A/D Principles and Biomedical Signal Fundamentals (Prof. Yang)
Chapter 12: Time-Domain Reflector (Prof. Tai)
Chapter 13: LCR meter and Impedance Analyzer (Prof. Tai)
<<<<<< Final Exam-Chapters 8~13, January

Note: (1) After the mid-term exam, all 3 classes will be taught together in ONE classroom (B1 迅慧講堂). Courses on Wednesdays will be re-scheduled due to no classroom is available.
(2) No delayed homework is acceptable, please be careful to check the deadline.
(3) No cheating and copy work is allowed. You must be failed if I found you cheat.