



Electrical and Electronics Circuits (4190.206A 002)

- 1st mid-term exam schedule
 - Oct. 23 (Wed) 2pm~3:15pm
 - Coverage of the exam: chap. 1 ~ chap. 8
 - Exceptions in the coverage
 - There will be no problems related to the underlying physics, or structure of MOSFET, VLSI fabrication in Section 1.5.2, 6.7. Example 2.21~2.
 - Materials related to digital logic design (Section 5.4, 5.5, 5.6) won't be part of the exam, but I can still ask questions about simple digital circuits like problem 2.5 in HW#2.
 - BJT, differential amplifier, op-amp in Example 7.13~7.22.
 - Section 8.2.4 (pg. 423~446)
 - If necessary, eq. (7.75) will be given, so you don't need to memorize eq. (7.75) by itself.
- Make-up class
 - Oct. 22 (Tue) 7pm
 - Location will be announced later
 - During the make-up session, I will review some of the sample problems. These sample problems are not necessarily related to the problems in the exam.
 - We will try to record the lecture, and post it on ETL like the last time, but there might be some delay and recording quality is not guaranteed. Also, there won't be a formal lecture note for this session.
 - If you have any questions, please bring it to the make-up session and ask.
- HW #2
 - **The due date is changed to Oct. 21 (Mon), 7:00pm**
 - Late submission will be accepted only until Oct. 22 (Tue) 7pm (beginning of the make-up session), because I want to post the solution of HW #2 on the ETL before the exam, and also I want to review some of the HW #2 problems during the make-up session.



Review

- Design rule for connecting two circuits
 - Assume that circuit A drives circuit B
 - $R_{out,A}$: output resistance of circuit A
 - $R_{in,B}$: input resistance of circuit B
 - Make sure that $R_{out,A} \leq R_{in,B}/10$
- Ideal linear capacitor
 - $Q = C \cdot V$
 - Q : amount of charges accumulated on a single plate
 - Farad: unit of capacitance C
 - $1 \text{ (Farad)} = \frac{1 \text{ (Coulomb)}}{1 \text{ (Volt)}}$ or typically written as $1 \text{ (F)} = \frac{1 \text{ (C)}}{1 \text{ (V)}}$
 - $I = \frac{d}{dt} Q = C \cdot \frac{dV}{dt}$



**I will use all the slides
in Lecture note 13, so
there is no new pages.**

