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| <b>Classes:</b>             | SC 12:20 - 1:15 PM Mondays, Wednesdays, Fridays   |
| <b>Instructor:</b>          | David M Kender  |
| <b>Office:</b>              | 247 Russ Engineering Center   |
| <b>Office Hours:</b>        | As posted and by appointment.   |
| <b>Web Page:</b>            | <a href="http://web1.cs.wright.edu/~dkender">http://web1.cs.wright.edu/~dkender</a>   |
| <b>Learning Assistants:</b> | <a href="http://web1.cs.wright.edu/~dkender/Fall2016BME3511LearningAssistants.htm">http://web1.cs.wright.edu/~dkender/Fall2016BME3511LearningAssistants.htm</a> |

**Course Description:** Electronic theory applied to biomedical / human systems (physiological measurements, medical devices, prosthetics, medical imaging). Passive components, voltage/current sources, switches/relays. Circuit/network analysis using law/theorems (Ohm, Joules, Kirchhoff, Thevenin/Norton). Hands-on laboratory component (NI myDAQ) reinforces an understanding of biomedical electronic systems and devices using function generators, multi-meters, oscilloscopes to measure voltage, current, impedance, frequency.

**Course Objectives:** With regard to human systems / biomedical engineering applications, students will be able to calculate series and parallel equivalent resistance, capacitance, inductance; apply Ohm's, Joules', Kirchhoff's Laws to direct current and alternating circuits and determine voltage / current relationship using various methods; describe and analyze Thevenin and Norton equivalents.

**Course Requirements and Evaluation:** Students are expected to participate in all scheduled classes. Course grades will be based on several criteria including a subjective evaluation of effort, learning, and understanding. **The are no "excused" absences, nor are there any "unexcused" absences, only absences!**

**Email:** Students are responsible for all course related information sent to their official Wright State University email account. It is strongly recommended you check your email and the course web page before every class.

**Text:** *Practical Electronics for Inventors*, 3ed Paul Scherz and Simon Monk, McGraw Hill, 2013  
*Schaum's Outline Of Basic Electricity*, 2ed Milton Gussow, McGraw Hill, 2007

**Reading Assignments, Homework Problems, and Exercises:** Reading assignments and homework problems will be assigned throughout the quarter. Students are encouraged to work collaboratively and to seek help from the recitation instructor as needed. Additional homework problems and exercises may be assigned to reinforce classroom lectures and laboratory experiences.

**Recitation:** Learning Assistants (recitation instructors) have been assigned to help students. Weekly formal recitation periods and open office hours are TBD. The learning assistants should be your first contact for questions regarding lectures, homework and quizzes.

**Laboratory Exercises:** Active participation in the laboratory sessions for Fall 2016 BME/ISE 3511 is mandatory. You are expected to attend the laboratory sections for which you are registered. Graded laboratory exercises and laboratory reports contribute a significant portion to your overall course grade. You may make-up any missed lab exercise on your own; but do not expect special consideration from the lab teaching assistant. Late submittal of laboratory reports will result in a substantial reduction in points. Please refer to **BME/ISE 3511 (Fall 2016) Laboratory Policy and Procedures** for additional information and guidance.

**Tests:** Nine tests (including the final exam) are scheduled. The tests will be closed-book. Please refer to **BME/ISE 3511 (Fall 2016) Policy Regarding Attendance, Participation, Absences, and Test Grades** for information regarding make-ups tests.

**Academic Integrity:** The instructor fully endorses the Wright State University policy to uphold and support standards of personal honesty and integrity for all students consistent with the goals of a community of scholars and students seeking knowledge and truth. <http://www.wright.edu/students/judicial/>

**Reasonable Accommodations Policy:** Any student with a disability that may prevent them from fully demonstrating their abilities should contact me personally as well as the **Office of Disability Services** as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

**Grading Criteria:** Please refer to

**BME/ISE 3511 (Fall 2016) Policy Regarding Attendance, Participation, Absences, and Course Grades**

## **BME/ISE 3511 (Fall 2016) Policy Regarding Attendance, Participation, Absences, and Course Grades**

Course grades will be based on several criteria including a subjective evaluation of effort, class participation, learning, understanding of the material, and achievement of the course objectives.

The overall course grade will be computed based on test scores and participation points. Participation points include attendance, in-class activities, and quiz scores (if any), laboratory performance including grades for laboratory results and reports. There are no extra credit activities.

**The are no "excused" absences, nor are there any "unexcused" absences, only absences!**

Grades will be awarded as follows:

| <u>Element</u> | <u>Proportional Value</u> | <u>Grades</u> |
|----------------|---------------------------|---------------|
| Tests          | 80%                       | 90 - 100 A    |
| Participation  | 20%                       | 80 - < 90 B   |
|                |                           | 70 - < 80 C   |
|                |                           | 60 - < 70 D   |
|                |                           | < 60 F        |

**Missed Test & Make-Up Test Policy:** The instructor recognizes that from time to time, students may not be available for scheduled tests. These absences, both planned and unplanned, occur for a number of reasons. In order to be fair to all students and to lessen the possibility of compromising test integrity, the following policy will apply to make-up tests.

Eight tests (including the final exam which will count as two separate tests) are scheduled for Fall 2016. In the event of a missed test, a substitute test score will be computed by applying 85% of the average test score and then a final average test score will be recalculated.

The above missed test procedure will apply for all of the missed tests except as follows:

If two tests are missed, the final overall course grade will be reduced by two letter grades.

If three or more tests are missed, the final overall course grade will be an "F".

If Test #9 is missed, the final overall course grade will be reduced by one letter grade.

**Exception:** Since a substitute test score will be used for calculating the overall test average, there is no penalty per se for a missed test, and as such there are no make-up tests available. However, in the case of anticipated absences, a student may arrange to take a make-up test at a remote site if the student arranges for an approved "Proctored Test" including an approved proctor, in advance of the test date; otherwise such occurrences will simply count as a missed test. A make-up test may include all material covered in lectures, example problems, reading assignments, homeworks, quizzes, and course handouts, etc. whether or not a specific topic was included in the Test Review Notes.

**Special Circumstances:** In general, this missed test policy will apply to all instances of missed tests, except in very rare and special cases. If in the judgment of the instructor special circumstances apply, modifications to the above policy may be made on a case by case basis. A temporary grade of "I" will not normally be given based solely on a missed test. Note: Absences (except as noted above in reference to "Proctored Tests") due to work related activities including military duty, extra-curricular activities including sports participation and other university sponsored events, personal and routine family related circumstances are not usually considered special circumstances.