DeVRY UNIVERSITY

Laboratory Schedule **Spring 2007**

Course Title:	**Introduction to Biomedical Engineering Laboratory**
Course number:	BMET311L
Instructor:	Tom Wheeler E-mail: twheeler@kc.devry.edu Voice Mail: 816.941.0430 x5211
Office Hours:	**Monday 11-11:50 am; Thursday 12-12:50pm; Friday 12-12:50pm** Other times possible by appointment

Course Description

This document contains the instructions and schedule for completion of experiments for the laboratory portion of BMET311, Introduction to Biomedical Engineering.

Textbooks and Materials

Textbook/s Title:	**Ed**	**Author**
BMET311 LABS -- LOCATED AT INSTRUCTOR'S WEB SITE.	**1**	**Wheeler**

Reference:

Most of the course materials are available at http://faculty.kc.devry.edu/twheeler/bmet311

Schedule of Experiments

Number	Description	Due Week #
1	**Electrical Safety Testing**	**3**
2	**Introduction to iWorx**	**5**
3	**Blood pressure & Plethysmography**	**7**
4	**Cardiac Cycle**	**9**
5	**Spirometry**	**11**
6	**Ultrasonic Blood Flow Measurement**	**13**
7	**Bioamplifiers**	**15**

Students in BMET311L will work in small groups. The composition of each group will remain fixed throughout the term. Each group submits one written report for each experimental topic above. Reports must consist of the following parts (please pay attention to order):

All portions of the lab reports for BMET311L (with the exception of raw data, which may be included in an appendix at the writer's discretion) must be created electronically. **No hand written work is acceptable**. Use the equation editor in Word (Insert -> Object -> Microsoft Equation 3.0) to type equations and formulas. Captured waveform data must be contained within the document file.

REPORT CONTENTS

1) COVER PAGE:

a) The names and roles of all persons in the group.
b) Your class and section (BMET311L 6DA)
c) Experiment Title
d) For: SR. PROFESSOR WHEELER
e) Due Date of report (Week # or date given in class)
f) Operational sign-off blank
g) Final sign-off blank.

Please note: Be sure to state the *role* of each person in the group. Rotate the team members through the roles. Roles may include (but are not limited to): Engineer (performs setup and tests); Secretary (writes lab report); Manager (oversees process). Make sure that all members of the team proofread the report before submitting it for a grade!

2) INTRODUCTION AND DISCUSSION OF THEORY: Present the theory behind this experiment; why is it important, what theories and ideas are being explored/tested, and so forth.

3) SUMMARY OF ACTIVITY: Discuss what activities your team performed during the experiment. Include recorded data as necessary, and show all calculations (use the equation editor to neatly incorporate mathematical formulas into the document).

4) CONCLUSION: What can be concluded from the data you collected in the experiment? Please note that this is different than a summary (although it is okay to recapitulate or summarize what you did in the experiment as you reach conclusions).

Report Grading Criteria

The documentation for BMET311L reports is evaluated by the following criteria:

- Mechanics - Correctness of spelling, punctuation, and grammar.
- Organization - Presentation of ideas in a logical order.
- Clarity - Minimization of the reader's workload.
- Appearance - Neatness and visual appeal of the work.

The A paper consists of the following:

Central Idea:
- Is clearly expressed, responds to the assignment, provides focus.
- Is explicitly and logically supported with concrete details and examples.

Structure:
- A plan of organization is given in which ideas are arranged in a clear, logical order.
- Ideas are clearly connected.

Development:
- Generalizations are supported or explained with concrete details.
- Smooth transitions are used between sentences and paragraphs.

Style:
- Varied sentence length and structure.
- Consistent and appropriate tone.

Mechanics:
- Grammar, punctuation, capitalization, spelling are correct.

A B paper consists of the following:

Central Idea:
- Is clearly expressed, responds to the assignment, provides focus.
- Is explicitly and logically supported with concrete details and examples.

Development:
- Concrete details usually given to support ideas.
- Transitions are given in most instances where needed.

Style:
- Contains some variation of sentence length and structure.
- Tone is consistent throughout.

Mechanics:
- No more than eight mechanical errors.

A C paper consists of the following:

Central Idea:
- May be slightly askew, but seems to be somewhat clear.

Structure:
- A clear construction is attempted, but does not measure up consistently, and ideas are usually connected via transitions.

Development:
- Writer has attempted to give enough information to support his/her ideas, but there are "holes" where the reader may be uncertain.

Style:
- The writer has attempted a few times to vary sentence length and structure, and tone shifts often.

Mechanics:
- No more than 10 mechanical errors.

A D paper consists of the following:

Central Idea:

- Is somewhat unclear, but is stated.

Structure:

- The ideas are somewhat "rambling" in nature, and few transitions are given.

Development:

- Many ideas have little concrete information for their support. Thus, they often fade into mere opinion rather than rather than expressing "facts."
- Few transitions are given.

Style:

- Leaves the reader feeling unsure of the writer's own attitude toward the topic.

Mechanics:

- Has more than 15 grammar, punctuation, spelling errors.

An F paper consists of the following:

Central idea is missing, and writing wanders from topic to topic without a clear focus.

Structure -- no clear structure -- becomes a jumble of ideas without a stated reason given for why it was written.

Development -- very little development or support given for any discernable ideas.

Mechanics -- writer evidences very little basic understanding of grammar, punctuation, or spelling skills. Many errors of each kind.

Class Policies and Procedures:

Attendance

Each student is required to attend every lecture and laboratory session in which he or she is enrolled. A swipe-card terminal (ATS) in each classroom is used to record attendance electronically. Students are responsible for arriving before class begins, sliding their identification card through the wall-mounted reader, and remaining for the duration of the course meeting. Students who are absent for two or more days should notify their Professor or assigned Academic Advisor in advance. Students who miss more than five (5) consecutive days of school are in violation of the DeVry attendance policy and will be dismissed.

Grading:

Each report is worth 100 points; there are 7 reports due, for a total of 700 points possible. The number of points earned, divided by the 700 points possible, is the "laboratory percentage" for BMET311L, and is a value between 0 and 100%.

See the BMET311 syllabus for a description of the course grade computation method.

Each report must contain a sign-off for credit. A sign-off is provided by the instructor or other authorized person.

Academic Integrity Policy

Ideas and learning form the core of the academic community. In all centers of education, learning is valued and honored. No learning community can thrive if its members counterfeit their achievement and seek to establish an unfair advantage over their fellow students. The academic standards at DeVry are based on a pursuit of knowledge and assume a high level of integrity in every one of its members. When this trust is violated, the academic community suffers injury and must act to ensure that its standards remain meaningful. The vehicle for this action is the Academic Integrity Policy outlined in the *Student Handbook*.

The Academic Integrity Policy is designed to foster a fair and impartial set of standards upon which academic dishonesty will be judged. All students are required to read, understand, and adhere to these standards, which define and specify the following mandatory sanctions for such dishonest acts as copying, plagiarism, lying, unauthorized collaboration, alteration of records, bribery, and misrepresentation for the purpose of enhancing one's academic standing:

- The ***first recorded offense*** will result in the student receiving zero credit for the entire paper, exam, quiz, lab, homework assignment, or other graded activity in which the incident of academic dishonesty occurred. No partial credit may be given. Where the incident involved a graded assignment normally subject to a "drop" option, the student may not exercise that option.

- The ***second recorded offense*** will result in the student receiving a failing grade for the course in which the second offense occurs. The second offense need not be in the same course, program, or term as the first offense to invoke this sanction.

- The ***third recorded offense*** will result in the student being permanently expelled from the DeVry system. Again, the third offense need not be in the same course, program, or term as either the first or second offense to invoke the sanction.

Changes to Syllabus:

The contents of this syllabus are subject to change with appropriate notice to the students.