This course introduces students to the field of biomedical engineering (BME) via lectures arranged in four modules. Each module corresponds to one topic in BME: biomechanics, bioelectrical systems, molecular engineering and imaging. Guest lecturers (full-time and affiliate faculty of the department) will present their research on Mondays to illustrate one particular facet of that module. The coursemaster will, on Wednesdays, lecture and discuss connections between topics and toward a unified understanding of BME foundations and emerging research. Aspects of biostatistics and ethics will also be presented.

Lectures: Mon and Wed 2:40 to 4 pm, Whitaker 100

Coursemaster: Prof. Thoroughman, Whitaker 200F (thoroughman@wustl.edu)
Office hours: Tuesdays 9:00-10:00am, Urbauer 318, or by appointment (ruzickak@wustl.edu)
No office hours on Tuesday, September 2.

Teaching Assistant I: Mihika Gangolli (mihika.gangolli@wustl.edu)
Office hours: EVERY Monday at 6:00pm in Whitaker 317 starting September 8

Teaching Assistant II & PST Leader: Olivia Sutton (oliviamsutton@wustl.edu)

PST Leader: Corban Swain (cnswain@wustl.edu)

Problem Solving Teams (PST) – Saturdays & Sundays

Poster Project Teaching Assistant: Chelsea Branson (chelseabranson@wustl.edu)
Office Hours: Mondays at 6:00 pm in Whitaker 317 on 9/8, 22; 10/13, 27; 11/17, 24; 12/1 OR BY APPOINTMENT

TEXTBOOK

Lectures:
8/25 Prof. THOROUGHMAN
8/27 Prof. YIN
9/1 LABOR DAY, NO CLASS
9/3 Prof. THOROUGHMAN
9/8 Prof. BAYLY
9/10 Prof. THOROUGHMAN
9/15 Prof. THOMOPOULOS
9/17 Prof. THOROUGHMAN

BIOMECHANICS

9/22 Prof. SNYDER
9/24 Prof. THOROUGHMAN
9/29 Prof. RAMAN
10/1 Prof. THOROUGHMAN
10/6 Prof. MORAN - Brain-computer interfaces
10/8 Prof. THOROUGHMAN
10/13 Mid-Term Review
10/15 Mid-Term Exam

TISSUE / BIOCHEMICAL ENGINEERING
10/20 Prof. SAKIYAMA-ELBERT
10/22 Ms. Jessica MILLER – Career in Industry
10/27 Prof. BIESCHKE
10/29 Prof. ELBERT
11/3 Prof. NAEGLE
11/5 Prof. THOROUGHMAN

BIOMEDICAL IMAGING
11/10 Prof. O’SULLIVAN
11/12 Prof. THOROUGHMAN
11/17 Prof. Anastasio
11/19 Prof. THOROUGHMAN
11/24 Prof. CARUTHERS
11/26 NO CLASS Thanksgiving
12/1 Prof. THOROUGHMAN
12/3 Final review

FINAL EXAMINATION: Saturday, December 13, 1-3 pm (Whitaker 100)
HOMEWORK – Found in Blackboard on the left navigation pane.
All homework is due at the beginning of class two weeks after it is assigned – unless otherwise specified. All homework is to be written, typed or printed on one side only of 8.5 x 11 inch paper. Multiple pages must be stapled (not clipped) together (as we will not accept responsibility for loose sheets). Hand in homework folded lengthwise with the text inside and with your name and assignment number on the inside and your name on the outside. HOMEWORK WILL NOT BE ACCEPTED AFTER 2:40PM THE DATE IT IS DUE.

GRADING
Your overall grade will be based on the following proportions:
• Homework 20%
• Mid-term exam (Biomechanics & Bioelectricity) 30%
• Final exam (Tissue/Biochemical Engineering & Biomedical Imaging) 30%
• Poster project (assignments + final hand-in) 20%

The top 5% of the class will earn a grade of A+. The remaining students will get grades based on 5% decrements from the average of these top grades. For example, if the top 5% of the class averages 88 points, those with grades of >83.6 (95% of 88) will earn A; those between 79.2 and 83.5 will earn A-, and so on.

ACADEMIC INTEGRITY
Students are expected to uphold the highest levels of academic integrity. This means doing your own work on exams, lab reports, papers and homework -- except when explicitly told by the instructor that it is acceptable to do otherwise. Academic integrity also means NO PLAGIARISM. Plagiarism is deliberately and willfully using someone else's work (figures, graphs, etc.) or words without proper attribution. For example, copying word-for-word, or essentially the same words in a part of a sentence or more and claiming that work to be your own is plagiarism. If you want to quote someone else's work, properly acknowledge it, e.g. put the text in quotes, or refer to a footnote. Violations of academic integrity will not be tolerated. The first violation will result in an F for that exercise, the second violation will result in an F for the course.

Washington University is committed to providing accommodations and/or services to students with documented disabilities. Students who are seeking support for a disability or a suspected disability should contact Disability Resources at 935-4153. Disability Resources is responsible for approving all disability-related accommodations for WU students, and students are responsible for providing faculty members with formal documentation of their approved accommodations at least two weeks prior to using those accommodations. I will accept Disability Resources VISA forms by email and personal delivery. If you have already been approved for accommodations, I request that you provide me with a copy of your VISA within the first two weeks of the semester.