FACULTY **C**OURSE **A**SSESSMENT **R**EPORT

Department of Biomedical Engineering

Academic Year: **2011-2012**
Term: **Fall 2011**

Course Code and Title: **BME1 Introduction to Biomedical Engineering**

Instructor: **Tibor Juhasz, PhD**

Background: Please review the *ABET background* document.

Instructions: For each student outcome performance indicator, identify (1) the assignment (which quiz, quiz problem, exam problem, or project) was used to assess that indicator, (2) the maximum score possible on that assignment, (3) the performance standard for that assignment expressed in points and also as a percentage of max, (4) the number of students who were assessed on that assignment, (5) the average score achieved by them expressed in points and percentage of max, and (6) the number and percentage of BME students who achieved the performance standard.

Performance Indicators (PIs): This course assesses the following Performance Indicators (please consult the *Proposed Remapping of BME courses to Student Outcomes* document): **f1, h1, j1.**

f1 — Students understand professional and ethical responsibility required of engineers.
h1 — Students understand the impact of biomedical engineering solutions in economic, environmental, and societal context, both locally and globally.
j1 — Students understand contemporary biomedical issues in economic, environmental, and societal context.

PIs	Assignment used for assessment	Max. score	PI standard and % of maximum	Number of students tested	Average score and % of maximum	Number and % of BME students who met the standard
(f1)	**Average**:Quiz	10	**7 or 70%**	182	**8.6 or 86%**	**172 or 94.5%**
(h1)	**Average**:Project	30	**20 or 66.6%**	182	**24.3 or 81%**	**178 or 97.8%**
(j1)	**Average**:Quiz	10	**7 or 70%**	182	**8.4 or 84%**	**175 or 96.1%**

Course Learning Outcomes: This course assesses the following Course Learning Outcomes (please consult your *Course Outline* document):

CLO1: Define the discipline of Biomedical Engineering **(h,j)**
CLO2: Describe the scope of research in the Department of Biomedical Engineering **(h,j)**
CLO3: Complete a problem based design project of interest.
CLO4: Perform a literature search and present the findings.
CLO5: Present sketches or graphics and explain design objectives, principles and expectations.
CLO6: Discuss difficulties, feasibility, time required for completion and any possible ethical questions. **(f)**

CLOs	Assignment used for assessment	Performance standard	Number of students tested	Average score (%)	Number and % of BME students who met the standard
1	quiz	70%	182	82%	176 or 96.7%
2	quiz	70%	182	88%	179 or 98.3%
6	project	66.6%	182	83%	177 or 97.2%

What changes did you make in this course based on previous assessment results?

I asked guest lecturers to give a simplified introduction to the general field their research is belonging to. Additionally I ask them to simplify their talk about their ongoing research. This improved the students understanding of the scope of biomedical engineering as well as the ongoing research at the department. Additionally, I somewhat simplified the project assignments.

What recommendations do you have for improving the course the next time it is taught?

This course is taught for first year BME students coming directly from high school. It is important to keep the content of the lectures understandable for this audience.

What recommendations do you have, if any, regarding prerequisite courses or other ways to improve student preparation for this course?

This course has no prerequisites. Giving this course in the second year after student learned some basics would allow the instructor to give more details about different topics and also would allow the students to understand the field of biomedical engineering somewhat better.

Any other recommendations or comments?

Addition of a discussion section would be beneficial for the execution of the projects.