Outcome e. Graduates will demonstrate an ability to identify, formulate, and solve engineering problems.

Tools used:
Course Specific Rubrics

Data Collection:
Rubrics are completed by course instructors through evaluation of specific coursework, including in-class assignments, homework assignments, exams, and projects

Frequency of Data Collection:
The data are collected every time courses are taught.

Data Analysis:
The data obtained are analyzed every year by the instructor and by the program faculty members.

Closing the Loop:
This outcome is subject to review every year based on performance criteria and metrics and specific action items are developed, if necessary, to revise the content or instruction of the courses. The analyzed data are presented separately to the following groups in meetings.

a) Feedback to students on all assignments
b) Feedback to and discussion with faculty on rubric results
c) Integration of results from faculty discussion on rubric results

Performance criteria and metrics:
Rubrics for each course are given on the BMEG assessment page (https://cbe.statler.wvu.edu/home/biomedeng/bmeg-assessment) or can be reached by following the link on the course number in the table below.

Students should reach a level of proficiency defined as a goal metric value of 3.0 based on the rubric scale of

(1) not proficient,
(2) progressing to proficiency,
(3) proficient, and
(4) superior proficiency.

Course Assessed	Performance Criteria Number	Aspect used on rubric
BMEG 315	Performance Criterion 1	Apply conservation laws and constitutive equations to formulate and solve problems related to the convective and diffusive transport of mass, energy, and momentum.
	Performance Criterion 2	Formulate governing equations using macroscopic balances to obtain solutions for both simple flow geometries and biologically realistic flow geometries
	Performance Criterion 3	Formulate governing equations using microscopic balances to determine appropriate boundary conditions and to solve simple 1-D mass, energy, or momentum transport problems or problems in physiological systems
BMEG 321	Performance Criterion 1	Apply formal problem-solving techniques that can be applied to generalized problems throughout engineering and applied science
BMEG 340	Performance Criterion 1	Apply the physical laws and mechanical aspects governing human movement
	Performance Criterion 2	Apply the principles of mechanics to model the time-dependent behavior of fibres
	Performance Criterion 3	Analyze the biomechanics of human skeletal muscle function
	Performance Criterion 4	Apply biomechanics principles on musculotendinous units and joints.
BMEG 455/456	Performance Criterion 1	Demonstrate the ability to apply scientific principles and engineering skills to solve problems at the interface of medicine and biology