B.S. Science & Technology / Biomedicine Option Program Statements

The vision of the B.S. Science & Technology / Biomedicine program offered by NJCSTM is to prepare young scientists to pursue post graduate education in the fields of medicine (allopathetic and osteopathic), physical therapy and related fields. The mission of this program is to provide an advanced practical and research project based curriculum through an integrated core curriculum of science and mathematics, including all prerequisite requirements for post graduate medical education programs, as a foundation to advanced coursework in bioscience and biomedicine. NJCSTM has a driving goal for this program to continue to establish collaborations with biomedical, medical/health science and pharmaceutical partners to enhance Kean’s and NJCSTM contributions to the scientific medical research community.

B.S. Sci & Tech / Biomedicine Student Learning Outcomes (SLOs)

NOTES:
SWR = scored with rubric
2011-12 SLO#6 was merged with SLO#2 as both were aspects of holistic knowledge

For the Student Earning a B.S. Degree in the Biomedicine Option
It is our expectation that graduates from the NJCSTM will have these characteristics:

• SLO1 (Biomedical Knowledge): Graduates will possess comprehensive theoretical and practical knowledge of the integrated science and mathematical fields necessary for admission to medical or graduate school should they choose to further their education. (KU 1, KU 2, KU 3, KU 4) (GE K1, S1, S2, S3, S4, S5, V2, V5)
  • 2 Direct Measures: Paper and presentation scored with rubric SWR (STME 4610) and MCAT scores (STME 4610).
  • 1 Indirect Measure: Graduating Student Survey

• SLO2 (Holistic Knowledge): Graduates will be versatile and resourceful scientists who can adjust to this ever-changing field because of their comprehensive, integrated knowledge of mathematics applied to the physical, biological and chemical sciences. (KU 1, KU 2, KU 3, KU 4) (GE K1, S1, S2, S3, S4, S5, V2, V4)
  • 3 Direct Measures: Lab practical SWR (STME 1603); poster SWR (STME 3610); oral presentation SWR (STME 4610)
  • 1 Indirect Measure: Graduating Student Survey

• SLO3 (Critical Thinking): Graduates will be able to combine critical thinking skills and analytical knowledge to design, perform, and analyze scientific or medical research both as an individual and as effective and productive project team members. (KU 1, KU 4) (GE K1, S1, S2, S3, S4, S5)
  • 3 Direct Measures: Lab practical SWR (STME 1603); poster SWR (STME 3610); oral presentation SWR (STME 4610)
1 Indirect Measure: Graduating Student Survey

SLO4 (Foreign Languages): Graduates will have conversational knowledge of their selected foreign language of study and be able to exercise this language knowledge and demonstrate sociocultural and bioethical awareness. (KU 1, KU 2, KU3) (GE S1, S2, V4)

2 Direct Measures: Academic advisement before junior year, Kean’s foreign language placement test score; reflective journal on service learning experience (STME 4611)

Indirect Measure: Graduating Student Survey

SLO5 (Communication): Graduates will be able to verbally express themselves and communicate scientific comprehension and knowledge in both formal oral presentations and in written format clearly, concisely and accurately. (GE S1, S2, S3, S4, S5, V4)

3 Direct Measures: paper and presentation SWR (GE 2024); poster SWR (STME 3610); presentation SWR (STME 4610)

1 Indirect Measure: Graduating Student Survey

SLO6: Graduates will know the origins of modern day bioscience and biomedical theory and application and its importance to society. (KU 1, KU 2, KU 3) (GE K1, S3, S4)

Direct Measures: Paper and presentation scored with rubric to demonstrate achievement of program goals (STME 4610). Indirect Measure: Graduating Student Survey (STME 4610).

Biomedicine Program SLOs – as aligned with KU SLOs derived from the Institutional Mission* and GE SLOs.** Data from Direct and Indirect Measures collected each spring semester in the Capstone Course.

* KU Student Outcomes: Kean University graduates should be able to:

1. Think critically, creatively and globally;
2. Adapt to changing social, economic, and technological environments;
3. Serve as active and contributing members of their communities; and
4. Advance their knowledge in the traditional disciplines (GE) and enhance their skills in professional areas.

**General Education Student Learning Outcomes

Knowledge: Students will demonstrate proficiency in knowledge and content by:
(GE K1) applying the scientific method to comprehend natural concepts and processes;
(GE K2) evaluating major theories and concepts in social sciences;
(GE K3) relating historical references to literature; and
(GE K4) evaluating major theories and concepts in the fine arts.

Skills: Students will demonstrate the skills necessary to:
(GE S1) write to communicate and clarify learning;
(GE S2) communicate effectively through speech;
(GE S3) solve problems using quantitative reasoning;
(GE S4) think critically about concepts in multiple disciplines; and
(GE S5) show information literacy.

**Values:** Students will exhibit a set of values that demonstrates:

(GE V1) personal responsibility

(GE V2) ethical and social responsibility

(GE V3) social and civic engagement

(GE V4) respect for diverse cultures and perspectives

(GE V5) life-long learning