Teaching Cancer Biology
A Course for In-service Teachers

BIOE 514: Advances in Biomedical Biology – Teaching Cancer Biology

3 credits
Fall 2017 - Thursdays 4:45-7:25 PM

Tuition and Fees Incentive: Graduate student tuition and fees are reduced to $325. Students will be billed in full, and then fees will be adjusted. This program is supported by a grant from the National Institutes of Health Science Education Partnership Award Program.

Description: The Center for the Advancement of STEM Education at Bridgewater State University, in collaboration with the Center for Translational Science Education at Tufts University School of Medicine, is offering a new course, entitled BIOE 514: Advances in Biomedical Biology – Teaching Cancer Biology. The course provides in-service teachers with the background to teach cancer biology at the high school level using The Great Diseases curriculum, developed in partnership with Boston teachers and Tufts Medical School scientists. Participants will investigate life-relevant scientific questions using authentic scientific practices to understand cancer as a disease, and the challenges of diagnosing and treating it. Participants will consider a variety of inquiry-based approaches to teach cancer biology, with a focus on the case study approach to problem-based learning, and will learn to modify lessons for their classroom.

Course Learning Goals: After completion of the course, students should be able to

- Demonstrate content knowledge of the five major concepts covered in this course.
- Interpret and evaluate claims about cancer.
- Demonstrate ability to interpret scientific data, develop models, and use mathematical thinking as it applies to use of case studies in the classroom.
- Develop a classroom lesson that integrates scientific practices and one of the five major concepts covered in this course.
- Demonstrate use of current best practices in teaching pedagogy to deliver cancer biology content in a classroom lesson.
- Demonstrate pedagogical content knowledge related to teaching cancer biology (be able to identify and correct student misconceptions, demonstrate use of figures/models and teaching tools that prove most effective in teaching cancer biology etc.).