Applied Biotechnology - APBT

Courses

APBT 1000 INTRODUCTION TO APPLIED BIOTECHNOLOGY (1) LEC. 1. Introduction to the field of biotechnology including key concepts from biology, chemistry, and physics, and career opportunities.

APBT 2950 PROFESSIONAL DEVELOPMENT (1) LEC. 1. Development of professional skills required for modern careers in entomology, plant pathology and applied biotechnology.

APBT 2980 INTRODUCTION TO UNDERGRADUATE RESEARCH (1-4) IND/RES. Departmental approval. Directed research in the area of specialty within the department. Course may be repeated for a maximum of 4 credit hours.

APBT 3100 METHODS OF SYNTHETIC BIOLOGY (4) LEC. 2. LAB. 5. Pr. (BIOL 1030 or BIOL 1037) and APBT 1000. This course provides an overview of the basic cellular processes harnessed by synthetic biology and biotechnology. It also provides an introduction to recombinant DNA and its applications. It combines lectures with labs to provide hands-on experience with molecular techniques, DNA cloning, heterologous protein expression, and methodologies used to engineer organisms.

APBT 4100 APPLIED BIOTECHNOLOGY (4) LEC. 2. LAB. 4. Pr. (BIOL 1030 or BIOL 1037) and (BIOL 3000 or BIOL 3003 or AGRI 3000) and APBT 3100. or instructor's approval. Principle and up-to-date advances of genetic modification of organisms; its practices and influences in a broad range of basic and applied sciences which have revolutionized "mean" of sustainable agriculture.

APBT 4920 INTERNSHIP (3) LEC. 3. SU. Pr. APBT 1000. Practical professional experience under the supervision of internship faculty and/or representatives of state, federal or private agency.

APBT 4980 UNDERGRADUATE RESEARCH (1-4) LAB. 2-8. Departmental approval. Directed research in the area of specialty within the department. Course may be repeated for a maximum of 4 credit hours.

APBT 5660 FIGURE FUNDAMENTALS : SCIENTIFIC ILLUSTRATION (3) LEC/STU. 1. Scientific illustration and data visualization implemented through the Adobe creative cloud package. May count either APBT 5660, ENTM 5660, or ENTM 6660.

APBT 5800 OMICS IN AGRICULTURE (3) LEC. 2. LAB. 2. Pr. BIOL 1030 or BIOL 3000 or AGRI 3000. This course will introduce students to the recent advances in high-throughput technologies such as genomics, transcriptomics, metagenomics, metabolomics, phenomics, modeling, and digital agriculture and how these technologies can be applied to tackling new and old problems in agriculture and human health. Students will be able to gain hands-on experience in analyzing and interpreting datasets obtained using these technologies.

APBT 5820 PRINCIPLES AND TOOLS FOR REPRODUCIBLE SCIENCE IN AGRICULTURE (2) LEC. 2. Pr. STAT 2510. Reproducibility is fundamental to science. This course will cover basic concepts in scientific reproducibility, accessibility, and organization as it relates to handling large datasets and publishing data workflows.