

Technology /Pre-Engineering Education Courses

School of Engineering offerings, with the exception of offerings that meet Liberal Learning requirements, are restricted to School of Engineering majors or to students with academic programs requiring specific School of Engineering offerings. Enrollment for non-majors interested in exploring School of Engineering offerings is by permission of the department chairperson.

TED 280/Introduction to Teaching Technology Education/Pre-Engineering 1 course unit

(with clinical hours)

(annually-fall)

Prerequisite: Sophomore standing

The course is an initial professional experience for technology teacher education candidates. Technology /Pre-Engineering Education (the study of the designed world in an education context) as a subject is a dynamic new teaching field reflecting the need for students to better understand their world through a design-based learning environment. "Standards for Technological Literacy: Content for the Study of Technology" were published in 2000. The National Science Foundation (NSF), the American Association for the Advancement of Science (AAAS), and most recently the Technology for All Americans (TfAA) project have recognized Technology Education/Pre-Engineering as a new field of study and as an important element of school reform. This introduction will include observations of classroom activities and school administrative functions, teaching small groups of students, studying about selecting content and methods for instruction and historical developments in the field. Student membership in ITEEA and NJTEA is required (and ASEE is recommended).

TED 380/Junior Professional Experience in Technology Education/Pre-Engineering 1 course unit

(with clinical hours)

(annually-spring)

Prerequisites: TED 280, junior standing, 2.5 GPA

This course is a systematic professional experience designed to develop knowledge and skills necessary for teaching Technology /Pre-Engineering Education in secondary schools. Experiences in the schools will include formal observation of teaching, planning for teaching, modes of instruction, presenting lessons, teacher-pupil interaction analysis and planning, management and control of a Technology /Pre-Engineering Education classroom/laboratory. The weekly seminars will address these and other related issues including defining the role of and performing as a professional educator. Continued membership in ITEEA and NJTEA is required (and ASEE is recommended).

TED 391/Independent Study in Technology Education/Pre-Engineering variable course units

(fall and spring)

Prerequisites: Permission of instructor and department chair

TED 391 is restricted to advanced students wishing to pursue a special area of interest. The topic will be developed in consultation with a faculty adviser.

TED 460/Integrated STEM for Child/Adolescent Learner 1 course unit

(fall and spring)

Prerequisites: ETE 271 and Junior or above standing

This course is an introduction to research and contemporary issues concerning the national focus on STEM literacy. The course will deal with concepts of design-based inquiry, history, principles and processes of technology / engineering and the impact of STEM activity on the individual, society and the

environment. The setting for the study of STEM literacy and design-based inquiry will focus on the elementary school level but will include secondary experiences when necessary.

TED 480/Content and Methods in Technology Education/Pre-Engineering **1 course unit**
(annually-fall)

Co-requisites: TED 481, TED 490 Students will receive a general overview of curricula, methodologies, and pedagogies in technology/pre-engineering education in this course, with particular emphasis on the development of instructional programs and materials, assessment, facilities organization, and management in the Technology /Pre-Engineering classroom and lab. Instruction is grounded in the Standards for Technological Literacy: Content for the Study of Technology (ITEEA, 2000). This course runs concurrently with TED 481 and 490. Student membership in ITEEA and NJTEA is required (and ASEE is recommended).

TED 481/Seminar in Technology Education/Pre-Engineering **1 course unit**
(annually-fall)

Prerequisite: TED 380

Co-requisites: TED 480, TED 490

Course topics include planning for and analysis of the student teacher's role in school and community environments; assistance in preparing for postgraduate employment; and individual and group assignments to support participation in TED 490, the student teaching practicum. This course runs concurrently with TED 480 and 490. Student membership in ITEEA and NJTEA is required (and ASEE is recommended).

TED 490/Student Teaching in Technology Education/Pre-Engineering **2 course units**
(field experience)
(annually-fall)

Prerequisites: TED 380, senior standing, 2.75 GPA

Co-requisites: TED 480, TED 481

Student teaching during the senior year is carried out under direct supervision of public or private school teachers and a college supervisor. Experience includes observation, participation, and responsible teaching within the school along with familiarization with both the school management system and community makeup.