

# TECHNOLOGY & ENGINEERING EDUCATION (K-12), B.S.ED.

The TECE program is a teacher preparation program for persons seeking Pennsylvania teacher certification in technology education, K-12.

The three themes of professional education at Millersville are supported and implemented, including engagement in learning communities of inquiry and action, a focus on students and demonstration of exemplary professional practices. Professional dispositions are developed and assessed in communicating professionally, demonstrating professional growth, demonstrating professional relationships, exhibiting attributes suitable to the profession, and displaying responsible and ethical behavior.

TECE majors are broadly prepared in general education, technology and engineering, and professional teacher education. Emphasis is on understanding, applying, managing and assessing design, biorelated, communication, energy and power, transportation and production technologies. Students may specialize in a technical area of their choice and must devote one semester to full-time student teaching in a public school.

An advisory committee of technology and engineering education teachers and supervisors assists with providing program relevancy. This program is accredited and nationally recognized as an outstanding technology teacher education program by the International Technology and Engineering Educators Association/Council on Technology and Engineering Teacher Education.

## Major in Technology and Engineering Ed - BSE

Code	Title	Hours
<b>TECHNOLOGY LITERACY CORE</b>		
AENG 110	Communication and Information Systems	3
AENG 120	Energy Systems	3
AENG 130	Production Materials & Processes	3
AENG 140	Bio-related Technologies	3
<b>TECHNICAL CORE</b>		
AENG 241	Drafting Communications	3
Print Media Systems or Web Publishing Interactive Media - Choose 1 of the following:		3
AENG 251	Print Media Systems	
AENG 252	Web Publishing Systems	
AENG 261	Electronic Systems	3
Processing Nonmetallic or Metallic Materials - Choose 1 of the following:		3
AENG 271	Processing Nonmetallic Materials	
AENG 281	Processing Metallic Materials	
AENG 322	Transportation	3
AENG 327	Engineering Structures	3
AENG 344	Product Design	3
AENG 346	Architectural Drawing	3
AENG 435	Manufacturing Enterprise	3
<b>TECHNICAL LAB COURSES</b>		
Laboratory Electives - Choose 3 of the following:		9-10
AENG 243	Technical Sketching, Design & Rendering	

AENG 251	Print Media Systems
AENG 252	Web Publishing Systems
AENG 262	Semiconductor Electronics
AENG 271	Processing Nonmetallic Materials
AENG 281	Processing Metallic Materials
AENG 325	Power Conversion and Control
AENG 326	Fluid Power
AENG 331	Construction Technology 1
AENG 332	Construction Technology 2
AENG 342	Computer-Aided Engineering Drawing
AENG 345	Statics/Strength of Materials
AENG 347	Engineering Visualization
AENG 351	Digital Imaging
AENG 355	Contemporary Printing
AENG 356	Desktop Publishing
AENG 357	Packaging Specialty Printing
AENG 364	Digital Electronics
AENG 375	Polymer and Ceramic Technology
AENG 376	Woodworking Technology
AENG 382	Automated Manufacturing
AENG 425	Industrial Robotic Systems
AENG 427	Programmable Logic Controllers
AENG 446	Advanced Applications in Drafting and Design
AENG 448	Machine Tool Design
AENG 455	R&D in Graphic Communications and Packaging
AENG 467	Mobile Robotics
AENG 485	Adv Manufacturing Systems
AENG 498	Independent Study
AENG 515	Adv Prob:
AENG 525	Adv Prob:
AENG 535	Adv Prob:

### REQUIRED EDTE COURSES - count in major GPA

EDTE 291	Foundations of Technology & Engineering Ed	3
EDTE 391	Curr & Inst in Tech & Eng Ed	3
EDTE 491	Seminar in Techn & Engring Ed	1
EDTE 496	Innovatn/Design Methodologies	2

**Total Hours** **57-58**

## Professional Education

Code	Title	Hours
<b>EDUCATIONAL FOUNDATIONS</b>		
EDFN 211	Foundations Modern Education	3
EDFN 241	Psychological Foundations of Teaching	3
<b>REQUIRED EDUCATION COURSES</b>		
Foundations of Technology Engineering Education		3
EDTE 291	Foundations of Technology & Engineering Ed	
Innovation and Design Methodologies		2
EDTE 496	Innovatn/Design Methodologies	
<b>ACCOMMODATIONS AND ADAPTATIONS</b>		
EDSE 340	Content Area Literacy for Diverse Classrooms	3
SPED 346	Secondary Students w/Disabilities in Inclusive Settings	3

Curr Instruction in Technology Engineering Education	3
EDTE 391 Curr & Inst in Tech & Eng Ed	
<b>STUDENT TEACHING</b>	
EDSE 471 Student Teaching Seminar	3
Seminar in Technology Engineering Education	1
EDTE 491 Seminar in Techn & Engring Ed	
Student Teaching	9
EDTE 461 Edte Stu Teaching	
<b>Total Hours</b>	<b>33</b>

## Req Related for Technology and Engineering Ed

Code	Title	Hours
General Education (G2) Math courses - Choose 2 classes from:		
Any MATH course(s) with attribute G2		
Science Elective		
Choose a G2 Lab Science from BIOL, CHEM, PHYS or ESCI. BIOL 100, CHEM 103, CHEM 205, PHYS 103 or PHYS 104 are strongly recommended.		
Literature Requirement - Choose 1 class from:		
Any ENGL 230-237 course(s)		
ENGL 241H	H:Explorations in World Lit	
ENGL 242	Reading Our World:	
ENGL 292	Science Fiction	
ENGL 333	African-American Literature 1	
ENGL 334	African American Literature 2	
ENGL 338	Folklore and Literature	
ENGL 401	Old Eng Lang and Literature	
<b>Total Hours</b>		<b>0</b>

## Advanced Professional Studies, BSE

Code	Title	Hours
*Clearances are valid for one year from the date that appears in the header of this degree audit in the field 'Clearance Date.' Clearances cannot expire in the middle of a semester.		
<b>APS REQUIREMENTS</b>		
English Composition - Choose 1 of the following:		
ENGL 110	English Composition	3
ENGL 110H	Hnrs:English Composition	
English Literature - Choose 1 of the following:		
ENGL 230	Introduction to Literature	3
ENGL 231	World Literature 1	
ENGL 232	World Literature 2	
ENGL 233	Early British Literature	
ENGL 234	Later British Literature	
ENGL 235	American Literary Tradition I	
ENGL 236	American Literary Tradition II	
ENGL 241H	H:Explorations in World Lit	
ENGL 242	Reading Our World:	
ENGL 292	Science Fiction	
ENGL 333	African-American Literature 1	
ENGL 333H	Hnrs:African American Lit 1	
ENGL 334	African American Literature 2	
ENGL 334H	Hnrs:African American Lit 2	

ENGL 336	New Dimensions to World Lit	
ENGL 338	Folklore and Literature	
ENGL 401	Old Eng Lang and Literature	
ENGL 402	Middle Eng Lang and Literature	
<b>Mathematics</b>		
Two Mathematics courses are required for BSE students. You have taken 0 course(s). It is preferable to take two courses designated as G2. Click here to search for MATH courses on the current web schedule. BIOL 375 will fulfill one Mathematics course for BSE BIOL students.		
EDFN 211	Foundations Modern Education	6
& EDFN 241	and Psychological Foundations of Teaching	
48 earned (transcript) credit hours are required		
<b>APS registration status</b>		
You ARE NOT eligible to register for courses requiring APS status.		
ACT 126 - Educator Ethics Training		
You must submit your Educator Ethics Training.		
<b>Pre-Service Testing Required</b>		
Pre-Service Testing Status is indicated by one of the following: 1.) PSTA - Pre-Service Testing Accomplished: Verified passing pre-service test scores meet the requirement. 2.) PSTI - Pre-Service Testing Incomplete: Non-passing pre-service test scores were submitted prior to the August 1, 2015 policy change. Passing scores must still be achieved in order to meet the PA certification requirements. 3.) PSTU - Pre-Service Testing Unverified: Unofficial copies of pre-service test scores were submitted. Official scores must be sent from the testing company in order to meet PA certification requirements. 4.) PSTX - Pre-Service Testing Waived: Per PDE - ACT 136, the Pre-Service Testing Requirement has been waived.		
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<b>Your GPA is below 3.0 - please see an advisor</b>		
If you are given the 2.8 GPA Exception for graduation and you graduate with a GPA lower than 3.0, you must have higher certification test scores in order to meet PA state certification requirements.		
<b>No dispositions-related holds</b>		
If the requirement above is checked as complete, then there are currently no dispositions-related holds on your APS Status. Registration for APS courses is permitted when all APS requirements have been met. If it is incomplete, you have a hold and APS registration will not be allowed.		
<b>Full Admission to APS</b>		
When all requirements are met, you must submit application for admission to APS status. Click here for the application.		
<b>Total Hours</b>		<b>12</b>