

**Associate of Technology (A.T.)  
Applied Engineering & Technology (AETE)  
Concentration: Nanofabrication Manufacturing Tech.**

**DEPARTMENTAL REQUIREMENTS (60 credits)**

**Required Core Courses**

(33 credits)

Grade	Course No.	Title	Cr
	AENG 110	Communication & Information Systems	3
	AENG 120	Energy & Power Systems	3
	AENG 130	Production Materials & Processes	3
	AENG 261	Electronic Systems	3
	OSEH 120	Safety, Health & Environmental Issues	3
<b>Courses to be completed during one semester of study at Penn State Univ., State College Campus:</b>			
	NFMT 311	Materials, Safety & Equipment Overview for Nanotechnology	3
	NFMT 312	Basic Nanotechnology Processes	3
	NFMT 313	Materials in Nanotechnology	3
	NFMT 314	Patterning for Nanotechnology	3
	NFMT 315	Nanotechnology Applications	3
	NFMT 316	Characterization, Testing of Nanotechnology Structures & Materials	3

**ADVISOR NOTES**

*As of September 2015, all students participating in the nanofabrication program will be charged an additional \$2,500 fee to cover the cost of the NFMT capstone courses at Penn State Univ. Cost may vary depending on when you complete these*

**Required Related – Science & Math (10-11 credits)**

(Fulfills two G2 courses)

Grade	Course No.	Title	Cr
	CHEM 103	General, Organic & Biochemistry	3
		<b>Select ONE from PHYS 103, 104 or 131</b>	
	PHYS _____	• PHYS 103 Elements of Physics	4
		• PHYS 104 Applied Physics	4
		• PHYS 131 Physics I	4
		<b>Select ONE from MATH 130, 151, or 160</b>	
	MATH _____	• MATH 130 Elements of Statistics (prereq: See Web Schedule or Undergrad Catalog)	3
		• MATH 151 Calc for Mgmt, Life (prereq C- or higher in MATH 101 or MPT 151)	4
		• MATH 160 Precalculus (prereq C- or higher in MATH 101 or MPT 160)	4

**GENERAL EDUCATION REQUIREMENTS (27 credits min. – Note: 6 credits of Gen Ed are fulfilled by Required Related Courses)**

**G1 – HUMANITIES & FINE ARTS** [ART, COMM/THEATRE, ENGL, FOREIGN LANG/HUMN, MUSI, PHIL] (6 credits)

Grade	Course No.	Title	Cr

**G2 – SCIENCE & MATH** These credits are fulfilled by Required Related Math & Science (6 credits)

**G3 – SOCIAL SCIENCES** [AFAM, ANTH, BUAD, GEOG, GOVT, HIST, INTL, PSYC, SOCY, SOWK/GERT, WSTU]] (6 credits)

Grade	Course No.	Title	Cr

**Additional General Education Requirements**

(9 credits)

Grade	Course No.	Title	Cr
	COMM 100	Fundamentals of Speech (minimum of "C-" required)	3
	ENGL 110	English Composition (minimum of "C-" required)	3

	ENGL _____	<b>Select <i>ONE</i> from:</b> <ul style="list-style-type: none"> <li>• ENGL 312 Technical Writing</li> <li>• ENGL 316 Business Writing</li> <li>• ENGL 318 Web Writing</li> <li>• ENGL 319 Science Writing</li> </ul>	3
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FREE ELECTIVE (1-3 credits) – needed to meet 60 credit minimum; depends on credit value of science & math courses selected

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