

Bachelor of Science (BS)  
 Degree Code 578 A  
 Non-Teaching

Program of Study for  
 Technology & Environmental Design Majors  
 Appropriate Technology

**I. GENERAL EDUCATION** ..... 44  
 (MAT 1025 taken for the major fulfills Quantitative Literacy. TEC 2029, S D 2400, & PHL 2015 or PHY 1830 fulfill Local to Global: Sustainability & Global Change for a 9 sh theme, Or TEC 2601 and ECO 2620 fulfill Local to Global: Global Resources for a 6 sh theme).

**II. MAJOR REQUIREMENTS** ..... 90 - 92  
 An overall 2.0 GPA is required in the major. 18 semester hours must be completed at Appalachian.

- Junior Writing in the Discipline (WID) \_\_\_\_\_ & Senior Capstone Experience (CAP) \_\_\_\_\_ must be met.**  
 \* MAT 1025 \_\_\_\_\_ (4) Algebra and Elementary Functions (or higher) (Prerequisite: must pass the math placement or MAT 0010)  
 \* BIO 1101 \_\_\_\_\_ & BIO 1102 \_\_\_\_\_ or CHE 1101 \_\_\_\_\_ / 1110 \_\_\_\_\_ & CHE 1102 \_\_\_\_\_ / 1120 \_\_\_\_\_ or PHY 1103 \_\_\_\_\_ & PHY 1104 \_\_\_\_\_ (8)

**Introductory Technology & Environmental Design Coursework (21 sh)**

- TEC 1728 \_\_\_\_\_ (3) Architectural Graphics & Computer Modeling (Pre/Coreq. TEC 2708)  
 \* TEC 2029 \_\_\_\_\_ (3) Society & Technology (Gen Ed: Local to Global Perspective; Sustainability & Global Change)  
 \* TEC 2601 \_\_\_\_\_ (3) Energy Issues & Technology (Gen Ed: Local to Global Perspective)  
 TEC 2708 \_\_\_\_\_ (3) Construction Technology & Building Codes  
 TEC 2718 \_\_\_\_\_ (3) Building Mechanical Systems  
 IND 2120 \_\_\_\_\_ (3) Materials and Processes I  
 GRA 1022 \_\_\_\_\_ (3) Digital Prepress (Prerequisites: ART 1011, ART 1013 or permission of the instructor)

Major requirements that may count in Gen Ed:		
MAT 1025	(4)	Quantitative Literacy
SCIENCE	(8)	Science Requirement
TEC 2029	(3)	L to G Perspective: Sustainability
S D 2400	(3)	L to G Perspective: Sustainability
PHL 2015	(3)	L to G Perspective: Sustainability
TEC 2601	(3)	L to G Perspective: Global Resources
ECO 2620	(3)	L to G Perspective: Global Resources
Total Major Hrs: 90 - 92		
Gen Ed – up to: - 21		
Net Major Hrs: 69 - 71		

**Interdisciplinary Coursework ( 12 - 14sh from any 4 courses)**

- ANT/SD 4570 \_\_\_\_\_ (3) Sustainable Development in the Modern World System  
 BIO 3312 \_\_\_\_\_ (3) Environmental Studies  
 \* ECO 2620 \_\_\_\_\_ (3) Environmental & Resource Economics (Gen Ed: Local to Global Perspective: Global Resources)  
 GHY 2812 \_\_\_\_\_ (3) Geospatial Data & Technology  
 GHY 3820 \_\_\_\_\_ (3) GIS for Environmental & Social Sciences  
 MGT 3010 \_\_\_\_\_ (3) Survey of Management  
 \* PHL 2015 \_\_\_\_\_ (3) Environmental Ethics (Gen Ed: Local to Global Perspective; Sustainability & Global Change)  
 PHY 1830 \_\_\_\_\_ (3) The Physical Principles of Energy & Sustainability (Gen Ed: Local to Global; Sustainability & Global Change)  
 PHY 3140 \_\_\_\_\_ (3) Environmental Physics (Prerequisite: PHY 1104 or PHY 1151)  
 PLN 2410 \_\_\_\_\_ (3) Town, City and Regional Planning  
 \* S D 2400 \_\_\_\_\_ (3) Principles of Sustainable Development (Gen Ed: Local to Global Perspective; Sustainability & Global Change)  
 S D 3100 \_\_\_\_\_ (3) Principles of Agroecology  
 S D 4100 \_\_\_\_\_ (4) Agroecology Practices, Systems & Philosophies (Prerequisite: S D 3100 or permission of the instructor)  
 \_\_\_\_\_ (3) Other courses in Sustainability, geography & planning, business or environmental topics approved by an advisor

**Technical Specialization (30 sh)**

The following are required courses:

- TEC 3638 \_\_\_\_\_ (3) Foundations of Appropriate Technology (WID) (Prerequisites: ENG 2001 or its equivalent; TEC 2029 and TEC 2601 or permission of the instructor)  
 TEC 4607 \_\_\_\_\_ (3) Wind and Hydro Power Technology (Prerequisite: TEC 1728, TEC 2029, TEC 2601, TEC 2708, TEC 2718, & TEC 3638 or permission of the instructor)  
 TEC 4608 \_\_\_\_\_ (3) Photovoltaic System Design & Construction (Prerequisite: TEC 1728, TEC 2029, TEC 2601, TEC 2708, TEC 2718, & TEC 3638 or permission of the instructor)  
 TEC 4628 \_\_\_\_\_ (3) Solar Thermal Energy Technology (Prerequisite: TEC 1728, TEC 2029, TEC 2601, TEC 2708, TEC 2718, & TEC 3638 or permission of the instructor)

**And select 18 sh from the following:**

- TEC 3604 \_\_\_\_\_ (3) Sustainable Transportation (Prerequisites: TEC 2601 & TEC 3638, or permission of the instructor)  
 TEC 3605 \_\_\_\_\_ (3) Sustainable Resource Management (Prerequisites: TEC 2029, or permission of the instructor)  
 TEC 3606 \_\_\_\_\_ (3) Sustainable Water and Wastewater Technology (Prerequisites: TEC 2029, or permission of the instructor)  
 TEC 3748 \_\_\_\_\_ (3) Building Science (Prerequisites: TEC 2708 and 2718 & MAT 1020 or higher, or permission of the instructor)  
 TEC 4618 \_\_\_\_\_ (3) Sustainable Building Design & Construction (Prerequisite: TEC 2708 or permission of the instructor)  
 TEC 4700 \_\_\_\_\_ (3) Biofuels Technology (Prerequisite: TEC 2601 and TEC 3638 or permission of the instructor)  
 TEC 4711 \_\_\_\_\_ (3) Computer Modeling of Renewable Energy Systems (Prerequisite: TEC 2601 and TEC 3638 or permission of the instructor)

**Capstone ( 3 sh)**

- TEC 4638 \_\_\_\_\_ (3) Contemporary Problems in Appropriate Technology (CAP) (“C” minimum required) (Prerequisite: TEC 4608 or permission of the instructor)  
 OR  
 TEC 4900 \_\_\_\_\_ (3) Internship (CAP)

**Electives (12 sh)**

Any TEC courses, study abroad experience, or Interdisciplinary courses listed above not already used elsewhere in the major  
 \_\_\_\_\_ (3) \_\_\_\_\_ (3)  
 \_\_\_\_\_ (3) \_\_\_\_\_ (3)

**III. MINOR NOT REQUIRED**

**IV. FREE ELECTIVES (to total a minimum of 122 sh for this major)** ..... 7 - 9  
 2 sh of free electives outside the major discipline are required. 122