2012 – 2013 (revised 5/4/12)

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)

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 _____ (4) 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

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

Technical Specialization (30 sh)
The following are required courses:
TEC 3638 _____ (3) Foundations of Appropriate Technology (**WID**) (Prerequisites: 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, TEC 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**