**2014 - 2015**

**Bachelor of Science (BS) Program of Study for**

**Degree Code 578 A Technology & Environmental Design Majors**

**Non-Teaching 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). Science requirement for major completes science sequence for Gen Ed).**

**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 1201 \_\_\_ , BIO 1202 \_\_\_ & BIO 1203 \_\_\_ or CHE 1101 \_\_\_/ 1110 \_\_\_ & CHE 1102 \_\_\_ / 1120 \_\_\_ or PHY 1103 \_\_\_ & PHY 1104 \_\_\_ (8)**

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

TEC 1708 \_\_\_\_\_ (3) Construction Technology & Building Codes

TEC 1728 \_\_\_\_\_ (3) Architectural Graphics & Computer Modeling(Pre/Coreq. TEC 1708)

 **\* 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 2718 \_\_\_\_\_ (3) Building Mechanical Systems

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

 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 \_\_\_\_\_ (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 1708, TEC 1728, TEC 2029, TEC 2601, TEC 2718, & TEC 3638 or permission of the instructor)

 TEC 4608 \_\_\_\_\_ (3) Photovoltaic System Design & Construction (Prerequisite: TEC 1708, TEC 1728, TEC 2029, TEC 2601, TEC 2718, & TEC 3638 or permission of the instructor)

 TEC 4628 \_\_\_\_\_ (3) Solar Thermal Energy Technology (Prerequisite: TEC 1708, TEC 1728, TEC 2029, TEC 2601, 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 1708 and 2718 & MAT 1020 or higher, or permission of the instructor)

 TEC 4618 \_\_\_\_\_ (3) Sustainable Building Design & Construction (Prerequisite: TEC 1708 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**

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**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**