

Bachelor of Science (BS)
Degree Code 571A
Non-Teaching

Program of Study for
Dept. of Sustainable Tech & The Built Env.
Sustainable Technology

I. GENERAL EDUCATION **44**
 (MAT 1020 taken for the major fulfills Quantitative Literacy. Science sequence required for major fulfills Science Inquiry. Up to 15 hours of required/optional courses in the major count in Gen Ed as noted on this POS.)

II. MAJOR REQUIREMENTS **89 - 93**
 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.

General Education courses also “required” for the major

MAT 1020 ____ (4) College Algebra with Applications (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 (28 sh)

IND 2110 ____ (3) Introduction to Fabrication
 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: ILE: Sustainability and Global Resources and Social Science designation)
 TEC 2601 ____ (3) Energy Issues & Technology (Gen Ed: Liberal Studies Experience)
 TEC 2718 ____ (3) Building Mechanical Systems
 TEC 3807 ____ (1) Construction Safety
TEC 3638 ____ (3) Foundations of Sustainable Technology (WID) (Prerequisites: RC 2001 or its equivalent; TEC 2029 and TEC 2601 or permission of the instructor)

And select two courses from the following:

GRA 1022 ____ (3) Electronic Document Design I
 IND 2012 ____ (3) Product Design (Gen Ed: Liberal Studies Experience and Fine Arts designation)
 IND 3004 ____ (3) Welding (Prerequisite: IND 2110 OR IND 2120)
 TEC 1023 ____ (3) Introduction to Electronics (Prerequisite: passing the math placement test or completion of MAT 0010)
 PHO 1022 ____ (3) Photographic Imaging I (Prerequisite: passing the math placement test or completion of MAT 0010)

Interdisciplinary Coursework (12 - 14sh from any 4 courses. See the Sustainable Technology Program Coordinator for complete list)

Recommended courses include:

BIO 3312 ____ (3) Environmental Studies
 ECO 2620 ____ (3) Environmental & Resource Economics (Gen Ed: LSE; Social Science Designation)
 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: ILE: Sustainability and Global Resources)
 PHY 1830 ____ (3) The Physical Principles of Energy & Sustainability
 (Gen Ed: ILE: Sustainability & Global Resources)
 PHY 3140 ____ (3) Environmental Physics (Prerequisite: PHY 1104 or PHY 1151)
 PLN 2410 ____ (3) Town, City and Regional Planning (Liberal Studies Experience and Social Science Designation)
 S D 2400 ____ (3) Principles of Sustainable Development
 (ILE: Sustainability and Global Resources)
 S D 3100 ____ (3) Principles of Agroecology
 S D 4100 ____ (4) Agroecology Practices, Systems & Philosophies
 (Prerequisite: S D 3100 or permission of the instructor)

Major requirements that may count in Gen Ed:	
MAT 1020	(4) Quantitative Literacy
SCIENCE	(8) Science Inquiry
Up to 15 hours of ILE and LSE courses chosen from:	
ECO 2620	(3) LSE
IND 2012	(3) LSE; Fine Arts Designation
PLN 2410	(3) LSE; ssd
TEC 2601	(3) LSE
PHL 2015	(3) ILE: Sustainability
S D 2400	(3) ILE: Sustainability
TEC 2029	(3) ILE: Sustainability; Social Science Designation
PHY 1830	(3) ILE: Sustainability
Total Major Hrs: 89 - 93	
Gen Ed – up to: - 27	
Net Major Hrs: 62 - 66	

Technical Specialization (27 sh)

The following are required courses:

TEC 4607 ____ (3) Wind and Hydro Power Technology (Prerequisite: TEC 1708, 1728, 2029, 2601, 2718, & TEC 3638 or permission of the instructor)
 TEC 4608 ____ (3) Photovoltaic System Design & Construction (Prerequisite: TEC 1708, 1728, 2029, 2601, 2718, & TEC 3638 or permission of the instructor)
 TEC 4628 ____ (3) Solar Thermal Energy Technology (Prerequisite: TEC 1708, 1728, 2029, 2601, 2718, & 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)

And select 15 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)

Capstone (3 sh)

TEC 4638 ____ (3) Contemporary Problems in Sustainable Technology (CAP) (“C” minimum required) (Prerequisite: TEC 4608 or permission of instructor)
 OR
 TEC 4900 ____ (3) Internship (CAP)

Technical Electives (7-9 sh)

Any TEC courses, study abroad experience, Instructional Assistantships (TEC 3520) or Interdisciplinary courses listed above not already used elsewhere in the major. See the Sustainable Technology Program Coordinator for complete list of approved electives)

_____ (3) _____ (3)
 _____ (3) _____ (3)

III. MINOR NOT REQUIRED

IV. FREE ELECTIVES (to total a minimum of 122 sh for this major) **2-16**
 2 sh of free electives outside the major discipline are required. **122**