

**Bachelor of Science (BS)**  
**Degree Code 577 \***  
**Concentration 577D**  
**Non-Teaching**

**Program of Study for**  
**Dept. of Sustainable Tech & The Built Env**  
**Building Sciences**  
**Sustainable Building Systems**

**I. GENERAL EDUCATION ..... 44**  
 (PHY 1103 & 1104 for the major fulfills Science Inquiry. MAT 1025 fulfills Quantitative Literacy. TEC 2029, PHL 2015, PHY 1830 may count in Gen Ed: ILE; TEC 2601 and ECO 2620 may count toward Gen Ed: Liberal Studies Experience).

**II. MAJOR REQUIREMENTS ..... 87**  
 (An overall 2.0 GPA is required in the major. 18 semester hours must be completed at Appalachian. Laptop computers are required).

**Junior Writing in the Discipline (WID) \_\_\_\_\_ & Senior Capstone Experience (CAP) \_\_\_\_\_ must be met.**

**Foundation Coursework (15 sh) Minimum grade of “C-” in each course is required**

- MAT 1025 \_\_\_\_\_ (4) Algebra & Elementary Functions (or higher) (Prerequisite: pass math placement or MAT 0010)
- TEC 2029 \_\_\_\_\_ (3) Society & Technology (Gen Ed: Integrative Learning Experience: Sustainability & Global Resources; Social Sciences Designation)
- PHY 1103 \_\_\_\_\_ (4) General Physics I (Corequisite: MAT 1025 or equivalent) (Gen Ed: Science Perspective)
- PHY 1104 \_\_\_\_\_ (4) General Physics II (Prerequisite: PHY 1103 or equivalent) (Gen Ed: Science Perspective)

**Introductory Coursework (21 sh) Minimum grade of “C” in each course is required**

- TEC 1708 \_\_\_\_\_ (3) Construction Technology & Building Codes
- TEC 1728 \_\_\_\_\_ (3) Architectural Graphics & Computer Modeling (Pre/Corequisite: TEC 1708)
- TEC 2601 \_\_\_\_\_ (3) Energy Issues & Technology (Gen Ed: Liberal Studies Experience)
- TEC 2718 \_\_\_\_\_ (3) Building Mechanical Systems
- TEC 2758 \_\_\_\_\_ (3) Surveying, Soils and Foundations (Prerequisite: MAT 1025)
- TEC 3038 \_\_\_\_\_ (3) Commercial Construction Technology (WID)** (Prerequisite: MAT 1025, TEC 1708, TEC 2758; RC 2001 or its equivalent)
- TEC 3039 \_\_\_\_\_ (3) Materials Science

**Advanced Coursework (30 sh) Minimum grade of “C” in each course is required**

- TEC 3718 \_\_\_\_\_ (3) Construction Estimating (Prerequisite: MAT 1025 or higher, TEC 1708, 3038, knowledge of word processing & spreadsheets)
- TEC 3728 \_\_\_\_\_ (3) Architectural Design Studio I (Prerequisites: TEC 1708, 1728 or permission of the instructor)
- TEC 3738 \_\_\_\_\_ (3) Statics & Strength of Structures (Prerequisite: MAT 1025, PHY 1103, TEC 1708, 1728, 2758, 3039)
- TEC 3748 \_\_\_\_\_ (3) Building Science (Prerequisite: TEC 1708, 2718, MAT 1025 or higher, or permission of the instructor)
- TEC 4103 \_\_\_\_\_ (3) Leadership in Technical Settings
- TEC 4618 \_\_\_\_\_ (3) Sustainable Building Design & Construction (Prerequisite: TEC 1708 or permission of the instructor)
- TEC 4758 \_\_\_\_\_ (3) Planning and Scheduling (Prerequisite: MAT 1025 or higher, TEC 1708, 2718, 3038, 3718)
- TEC 4788 \_\_\_\_\_ (3) Integration of Energy and Building Systems (Prerequisite: TEC 3718, 3728, 3748, 4618 or permission of the instructor)
- TEC 4900 \_\_\_\_\_ (6) Internship (CAP)**

**Major Electives (12 sh from the following)**

- TEC 3035 \_\_\_\_\_ (1-3) Architectural Field Study (Prerequisite: TEC 3728 or permission of the instructor)
- TEC 3036 \_\_\_\_\_ (1-3) Construction Management Field Study (Prerequisite: TEC 3728 or permission of the instructor)
- TEC 3037 \_\_\_\_\_ (1-3) Sustainable Building Systems Field Study (Prerequisite: TEC 3728 or permission of the instructor)
- TEC 3520 \_\_\_\_\_ (1-3) Instructional Assistant
- TEC 3638 \_\_\_\_\_ (3) Foundations of Appropriate Technology (Prerequisites: TEC 2029 and TEC 2601, or permission of the instructor, and RC 2001 or its equivalent.)
- TEC 3807 \_\_\_\_\_ (1) Construction Safety
- TEC 4608 \_\_\_\_\_ (3) Photovoltaic System Design & Construction (Prereq: TEC 1708, TEC 1728, TEC 2029, TEC 2601, TEC 2718, TEC 3638 or permission of the instructor.)
- TEC 4628 \_\_\_\_\_ (3) Solar Thermal Energy Technology (Prerequisites: TEC 1708, TEC 1728, TEC 2029, TEC 2601, TEC 2718, and TEC 3638 or permission of the instructor.)
- TEC 4711 \_\_\_\_\_ (3) Computer Modeling of Renewable Energy (Prerequisites: TEC 2601 and TEC 3638 or permission of the instructor.)
- ACC 1050 \_\_\_\_\_ (3) Survey of Accounting
- LAW 2150 \_\_\_\_\_ (3) Legal Environment of Business
- PHY 3140 \_\_\_\_\_ (3) Environmental Physics (Prerequisite: PHY 1104 or 1154)
- \_\_\_\_\_ \_\_\_\_\_ (3) Other courses in the Dept. of Tech. & Env. Design related to sustainability or environmental topics approved by the program coordinator

**Interdisciplinary Course (9 sh)**

- ECO 2620 \_\_\_\_\_ (3) Environmental Resource Economics (Gen Ed: Liberal Studies Experience; SSD)
- PHL 2015 \_\_\_\_\_ (3) Environmental Ethics (Gen Ed: ILE: Sustainability & Global Resources)
- PHY 1830 \_\_\_\_\_ (3) Physical Principles of Energy & Sustainability (Gen Ed: ILE: Sustainability & Global Resources)

Major requirements that may count toward Gen. Ed:		
MAT 1025	(4)	Quantitative Literacy (fulfills)
PHY 1103	(4)	Science Perspective
PHY 1104	(4)	Science Perspective
TEC 2029	(3)	ILE: Sustainability; SSD
TEC 2601	(3)	Liberal Studies Experience
PHL 2015	(3)	ILE: Sustainability
PHY 1830	(3)	ILE: Sustainability
ECO 2620	(3)	Liberal Studies Experience; SSD
Total Major Hrs:	87	
Gen Ed: up to	-27	
Net Major Hrs:	60	

**III. MIONR NOT REQUIRED – Recommended minors are General Business or Community and Regional Planning**

**IV. FREE ELECTIVES ..... 2 - 18**  
**2 sh of free electives outside the major discipline are required. 122**