

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

**Program of Study for
 Technology & Environmental Design Majors
 Building Sciences
 Sustainable Building Systems**

I. GENERAL EDUCATION **44**
 (PHY 1103 & 1104 for the major fulfills Science Perspective. MAT 1025 fulfills Quantitative Literacy. TEC 2029, TEC 2601, PHL 2015, ECO 2630 or PHY 1830 may count toward Gen Ed if completing a theme).

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)

- MAT 1025 _____ (4) Algebra & Elementary Functions (or higher) (Prerequisite: pass math placement or MAT 0010)
- TEC 2029 _____ (3) Society & Technology (Gen Ed: Local to Global Perspective)
- 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 1728 _____ (3) Architectural Graphics & Computer Modeling (Pre/Corequisite: TEC 2708)
- TEC 2708 _____ (3) Construction Technology & Building Codes

**** Upon completion of TEC 1728 and TEC 2708, students will take the Building Science Competency Exam (a minimum grade of 70 in each part is required before taking Advanced Coursework.**

- TEC 2601 _____ (3) Energy Issues & Technology (Gen Ed: Local to Global Perspective)
- 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 2708, TEC 2758)**
- TEC 3039 _____ (3) Materials Science (Prerequisites: PHY 1104 and TEC 2708)

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

- TEC 3718 _____ (3) Construction Estimating (Prerequisite: MAT 1025 or higher, TEC 2708, 3038, knowledge of word processing & spreadsheets)
- TEC 3728 _____ (3) Architectural Design Studio I (Prerequisites: TEC 1728, 2708 or permission of the instructor)
- TEC 3738 _____ (3) Statics & Strength of Structures (Prerequisite: MAT 1025, PHY 1104, TEC 1728, 2708, 2758, 3039)
- TEC 3748 _____ (3) Building Science (Prerequisite: TEC 2708, 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 2708 or permission of the instructor)
- TEC 4758 _____ (3) Planning and Scheduling (Prerequisite: MAT 1025 or higher, TEC 2708, 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 3638 _____ (3) Foundations of Appropriate Technology (Prerequisites: TEC 2029 and TEC 2601, or permission of the instructor, and ENG 2001 or its equivalent.)
- TEC 3807 _____ (1) Construction Safety
- TEC 4608 _____ (3) Photovoltaic System Design & Construction (Prereq: TEC 1728, TEC 2029, TEC 2601, TEC 2708, TEC 2718, TEC 3638 or permission of the instructor.)
- TEC 4628 _____ (3) Solar Thermal Energy Technology
- 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)

- ECCO 2620 _____ (3) Environmental Resource Economics (Gen Ed: Local to Global Persp.)
- PHL 2015 _____ (3) Environmental Ethics (Gen Ed: Local to Global Perspective)
- PHY 1830 _____ (3) Physical Principles of Energy & Sustainability (Gen Ed: Local to Glob Persp.)

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)	Local to Global Perspective
TEC 2601	(3)	Local to Global Perspective
PHL 2015	(3)	Local to Global Perspective
PHY 1830	(3)	Local to Global Perspective
ECCO 2620	(3)	Local to Global Perspective
Total Major Hrs:	87	
Gen Ed: up to	-21	
Net Major Hrs:	66	

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

IV. FREE ELECTIVES **2 - 12**
2 sh of free electives outside the major discipline are required. **122**