

B.S. in ENGINEERING TECHNOLOGIES AND APPLIED DESIGN – Engineering Technologies and Applied Design Concentration

(32 credits required for graduation with a minimum cumulative GPA of 2.00)

NOTE: This guide is not meant to replace the degree audit; it is subject to change and represents actions approved by Faculty to date. Students are encouraged to run their degree audit at the end of each term of enrollment. Please refer often to the *2021-2022 Online Catalog & Student Handbook* <http://catalog.berea.edu/en/current/catalog>, which will be updated with the most current information.

GENERAL EDUCATION PROGRAM

No single transfer course can meet more than one General Education requirement.

Core Courses

(Development math courses may be waived on basis of test scores.)

MAT 010 Pre-Algebra

MAT 011 Elementary Algebra

MAT 012 Elementary Algebra II

GSTR 110 Writing Seminar I: Critical Thinking in the Liberal Arts *(Transfer students may waive if College Composition was taken as a degree-seeking student at another college and earned a grade of B or higher.)*

GSTR 210 Writing Seminar II: Identity and Diversity in the U.S.

GSTR 310 Understandings of Christianity

GSTR 410 Seminar-Contemporary Global Issues

Scientific Knowledge and Inquiry

GSTR 332 Scientific Origins **OR**

Two (2) approved science courses, from two different disciplines, one of which must be an approved lab course. The following courses have been approved to meet this requirement: ANR 110, BIO 100, 101, 110, CHM 113, 131, PHY 111, 127, 221

Wellness & Fitness

WELL 101 Principles of Wellness I

WELL 102 Principles of Wellness II

Two (2) ¼-credit HHP activity courses *(HHP 200 will satisfy both the SWIM requirement and one of the activity course requirements)*

Practical Reasoning (PR & PRQ)

Two (2) courses, at least one firmly grounded in math or statistics (PRQ); the other can be an approved practical reasoning (PR) course or another PRQ course.

Perspectives (Six areas required)

One (1) course in **each** of the six areas is required. Individual courses may be approved to satisfy more than one perspective, but no single course may satisfy more than two perspective areas.

1) Arts

2) Social Science

3) Western History

4) Religion

5) African American/Appalachian/Women

6) International (choose one option):

A) Two (2) courses in the same non-English language, one of which may be waived through testing; **OR**

B) Two (2) world culture courses, one of which must be grounded in a non-western culture

Active Learning Experience

An approved experience, taken for credit or non-credit (e.g. internships, undergraduate research experiences).

TAD-GENERAL MAJOR REQUIREMENTS

A minimum GPA of 2.0 in the major is required for graduation.

Core Courses

TAD 130 Engineering Design Graphics - Introduction

TAD 140 Design Production in Woods

TAD 180 Graphic Communication & Design

TAD 245 Materials/Processing/Testing

TAD 265 Electricity & Electronics

TAD 275 Power & Energy Technology

Capstone Course

TAD 488 Research in Technology

Required Distribution Courses (three total credits)

Three (3) course credits chosen from:

TAD 330 Engineering Design Graphics - Advanced

TAD 340 Studio in Woods

TAD/SENS 345 Ecological Architecture

TAD 352 Quality Control

TAD 382 Studio in Graphic Design

TAD 455 Comp Integrated Manufacturing

TAD 460 Digital Electronics

TAD 470 Advanced Power & Energy

TAD 490 Independent Study

TAD 495 Internship

Required Collateral Course (one credit)

MAT 105 Intro to Discrete Math **OR**

Higher level math

ELECTIVES

Twenty (20) credits outside the major

Learning Goal 1: Develop understanding and skills within the Discipline and throughout the Liberal Arts

Learning Outcome 1.1: Demonstrate critical thought, problem solving, analysis and synthesis

Learning Outcome 1.2: Demonstrate a desire for life-long learning and inquiry

Learning Outcome 1.3: Connect learning in technology and applied design across all disciplines

Learning Outcome 1.4: Demonstrate learning by addressing real world problems and challenges.

Learning Goal 2: Develop a contemporary, global understanding of Technology and Applied Design.

Learning Outcome 2.1: Demonstrate knowledge and understanding of the world of work.

Learning Outcome 2.2: Demonstrate appropriate skills and knowledge toward specific application(s) of technology and applied design.

Learning Outcome 2.3: Demonstrate an understanding of the impact of technology and applied design has on humans and our natural world.

Learning Goal 3: Preparation for Responsible Engagement

Learning Outcome 3.1: Demonstrate an awareness for individual action, ethical consciousness and a commitment to service.

Learning Outcome 3.2: Exhibit preparedness to live thoughtfully in our natural and human made environments.

Learning Outcome 3.3: Demonstrate understanding of the importance of human collaboration and cooperation.