

Introduction to Technology

TECH003257

Credits: 0.5 units / 5 hours

Course Description

This course introduces Technology and the role it plays in our lives. It covers aspects of designing and working safely with technology. The course discusses materials used in creating pieces of technology and how materials and their creation impact the environment. The course covers construction and transportation and different methods of both as well as energy and power technologies. Finally, the course discusses communication, robotics, engineering, and career planning.

Graded Assessments: 5 Unit Evaluations; 3 Proctored Progress Tests

Course Objectives

The objectives are listed individually in each lesson, but the ultimate goal is that, by the end of the course, you will know and use these facts, concepts, principles, theories, and models to gain a better grasp on the following and be able to:

1. Analyze products, systems, and environments.
2. Identify practical, real-life problems.
3. Learn how STEM subjects are related.
4. Identify what is needed for a particular person or group.
5. Show initiative by retrieving information to inform your thinking.
6. Develop your creativity by identifying a range of possible solutions.
7. Use knowledge and skills to provide solutions to a variety of needs and wants.
8. Understand that there is no single right answer to a need or problem.
9. Collaborate with your peers to discuss, explore, evaluate, and reflect.
10. Develop skills to manipulate materials, tools, and equipment safely.
11. Design and build models and prototypes.
12. Critically evaluate products, systems, and services.

Course Outline

Unit 1: The Nature of Technology

Lesson 1: An Introduction to Technology

Lesson 2: Working Safely

Lesson 3: Design and Designing

Lesson 4: Learning to Design

Lesson 5: Sketching and Drawing Techniques

Unit 1 Evaluation

Unit 2: Materials, Industrial Sectors, and the Environment

Lesson 6: Materials

Lesson 7: Processing Materials

Lesson 8: The Four Industrial Sectors

Lesson 9: Technology and the Environment

Unit 2 Evaluation

Review For Progress Test 1

Unit 3: Construction and Transportation

Lesson 10: Structures

Lesson 11: Engineering and Construction

Lesson 12: Machines

Lesson 13: Transportation

Unit 3 Evaluation

Unit 4: Energy and Power Technologies

Lesson 14: Energy

Lesson 15: Electricity and Magnetism

Lesson 16: Using Electricity and Electronics

Unit 4 Evaluation

Review For Progress Test 2

Unit 5: Communication, Robotics, Engineering, and Career Planning

Lesson 17: Information and Communication Technology

Lesson 18: Robotics

Lesson 19: Agricultural and Biomedical Engineering

Lesson 20: Preparing for Your Career

Unit 5 Evaluation

Review For Progress Test 3

Course Materials

(available through Follett virtual bookstore at <http://www.bkstr.com/nebraskahighschoolstore>)

Required Materials

Textbook: *Technology: Engineering Our World*. (ISBN: 9781635634716)

Optional Materials

Introduction to Technology TECH 003 257 (print course content)