Introduction to Engineering

Catalogue Number	77-3095-0000
Category	Manufacturing and Engineering
Duration	15 Hours

1.1 (Core): Introduction to Engineering

Introduction to Engineering

Topics List

Objectives

Vocabulary

Engineering and Our World

What is Engineering?

The Building Blocks of Engineering

History of Innovation

The Industrial Revolution

The 20th Century and Beyond

Course Project

Challenges

The Design Loop

Activity Resources

Challenges

1.2 (Activity): Engineering Contributions

Introduction

Researching an Engineer

1.3 (Core): Engineering in Society

Topics List

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The Role of Engineering in Society

Innovation and Society

Ethics in Engineering

1.4 (Activity): Engineering Ethics

The Engineer's Role

Case Study

1.5 (Core): Careers in Engineering

Topics List

Objectives

Vocabulary

Engineering Fields

Engineering Career Paths

Jobs in Engineering

Selecting a Career in Engineering

1.6 (Activity): Career Inquiry

(Activity): Career Inquiry – Fundamental

(Activity): Career Inquiry – Advanced

1.7 (Core): Engineering Approaches to Product Design

Topics List

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The Engineering Process

Putting it All Together

New Product Development

Iterations in the Engineering Design Process

1.8 (Core): Engineering Design Tools

Topics List

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Computer Simulation Modeling

Prototypes and Scale Models

1.9 (Activity): Paper Tower

(Activity): Paper Tower – Fundamental

(Activity): Paper Tower – Advanced

1.10 (Core): Engineering Education Planning

Topics List

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Is Engineering for Me?

Math and Science

Problem-Solving Skills

Engineering Writing

Soft Skills

Formal Education and Training

Practical Training

Planning Your Future in Engineering

Exams and Licensure

1.11 (Project): Exploring Engineering

(Activity): Paper Tower – Fundamental

(Activity): Paper Tower – Advanced