Introduction

The aim of Cambridge English for Engineering is to improve your professional communication skills, whether you are an engineer, an engineering technician or a technical manager. The course covers high-priority language that is useful in any branch of engineering (mechanical, electrical, civil, etc.), focusing on skills such as working with drawings, describing technical problems and discussing dimensions and precision. Each of the ten units contains:

- realistic listening activities so you can learn the language used in technical discussions
- situation-based speaking activities so you can practise the language you’ve learned
- relevant vocabulary presented and practised in professional contexts
- engaging topics and articles to make your learning interesting and motivating.

On the audio you will hear people in the kinds of situation often encountered at work, for example safety meetings, project briefings and problem-solving discussions. Audioscripts for the listening exercises and a complete answer key, including suggested answers for the discussion activities, are at the back of the book. You can also find engineering case studies and extra activities online at www.cambridge.org/elt/englishforengineering.

How to use Cambridge English for Engineering for self-study

If you are working on your own, you can do the units in any order you like. Choose the topic that you want to look at and work through the unit, doing the exercises and checking your answers in the answer key. Note any mistakes you make, and go back and listen or read again to help you understand what the problem was. For the listening exercises, it’s better to listen more than once and to look at the audioscript after the exercise so that you can read the language you’ve just heard. For the speaking activities, think about what you would say in the situation. You could also try talking about the discussion points with your colleagues.

I hope you enjoy using the course. If you have any comments on Cambridge English for Engineering you can email me at englishforengineering@cambridge.org

Mark Ibbotson

Mark Ibbotson has a BSc (Hons) degree in Construction management, and a BTEC National Diploma in Civil Engineering. He spent the initial years of his career in site engineering and technical management positions on construction projects in the UK. Since relocating to France and entering the field of in-company language training, he has designed and taught technical English courses in a wide range of companies, for process, mechanical, electrical, civil and highway engineers, as well as technicians and technical managers. Mark is co-author of the Business Start-Up series (Cambridge University Press).
| UNIT 1 | Technology in use | Describing technical functions and applications | Words stemming from use, allow, enable, permit, ensure, prevent | Listening | GPS applications |
|        | page 6           | Explaining how technology works                  | Verbs to describe movement |          | Space elevators |
|        |                  | Emphasising technical advantages                | Verbs and adjectives to describe advantages |          | Advantages of a new pump |
|        |                  | Simplifying and illustrating technical explanations | Adverbs for adding emphasis |          | A guided tour |
|        |                  |                                              | Phrases for simplifying and rephrasing |          | Reading |
|        |                  |                                              |                          |          | Space elevators |
|        |                  |                                              |                          |          | Otis lift technology |
|        |                  |                                              |                          |          | Pile foundations |
| UNIT 2 | Materials technology | Describing specific materials | Common materials, Categories of materials, consist of, comprise, made of, made from, made out of | Listening | An environmental audit |
|        | page 14          | Categorising materials                         | Properties of materials |          | Specialised tools |
|        |                  | Specifying and describing properties           | Phrases for describing requirements |          | High-performance watches |
|        |                  | Discussing quality issues                      | Compounds of resistant |          | Reading |
|        |                  |                                              | Adverbs of degree |          | Regenerative brakes |
|        |                  |                                              |                          |          | Kevlar |
| UNIT 3 | Components and assemblies | Describing component shapes and features | Shapes and 3D features, Words to describe machining, Phrases for describing suitability | Listening | An environmental audit |
|        | page 22          | Explaining and assessing manufacturing techniques | Verbs and nouns to describe joints and fixings |          | Specialised tools |
|        |                  | Explaining jointing and fixing techniques      | Prepositions of position |          | High-performance watches |
|        |                  | Describing positions of assembled components   |                          |          | Reading |
|        |                  |                                              |                          |          | Regenerative brakes |
|        |                  |                                              |                          |          | Kevlar |
| UNIT 4 | Engineering design | Working with drawings | Views on technical drawings, Phrases related to scale, Phrases related to tolerance length, width, thickness, etc. | Listening | A drawing query |
|        | page 30          | Discussing dimensions and precision            | Drawing types and versions |          | Scale |
|        |                  | Describing design phases and procedures        | Verbs for describing stages of a design process |          | A floor design |
|        |                  | Resolving design problems                      | Verbs and nouns for describing design problems |          | Design procedures |
|        |                  |                                              |                          |          | Revising a detail |
|        |                  |                                              |                          |          | Reading |
|        |                  |                                              |                          |          | Superflat floors |
|        |                  |                                              |                          |          | Queries and instructions |
| UNIT 5 | Breaking point   | Describing types of technical problem          | Verbs and adjectives for describing technical problems | Listening | A racing car test session |
|        | page 38          | Assessing and interpreting faults              | Words for describing faults and their severity |          | Test session problems |
|        |                  | Describing the causes of faults                | Phrases for describing certainty/uncertainty |          | Technical help-line |
|        |                  | Discussing repairs and maintenance             | Adjectives with prefixes for describing technical problems |          | Tyre pressure problems |
|        |                  |                                              | Verbs for describing repairs and maintenance |          | A maintenance check |
|        |                  |                                              |                          |          | Reading |
|        |                  |                                              |                          |          | Air Transat Flight 236 |
# UNIT 6
## Discussing technical requirements
- Suggesting ideas and solutions
- Assessing feasibility
- Describing improvements and redesigns

## Phrases for referring to issues
- Phrases for referring to quantity and extent
- Phrases for suggesting solutions and alternatives
- Verbs with re... to describe feasibility
- Idioms to describe redesigning

## Listening
- Simulator requirements and effects
- Lifting options
- Hole requirements and forming
- A project briefing

## Reading
- Mammoth problem

# UNIT 7
## Describing health and safety precautions
- Emphasising the importance of precautions
- Discussing regulations and standards
- Working with written instructions and notices

## Types of industrial hazards
- Types of protective equipment
- Phrases for emphasising importance
- Terms to describe regulations
- Common language on safety notices
- Language style in written instructions

## Listening
- A safety meeting
- Hazard analysis
- Live line precautions
- Safety training

## Reading
- Live line maintenance
- Helicopter safety on oil platforms

# UNIT 8
## Describing automated systems
- Referring to measurable parameters
- Discussing readings and trends
- Giving approximate figures

## Words to describe automated systems
- Words to describe measurable parameters
- Words to describe fluctuations
- Words and phrases for approximating numbers

## Listening
- Intelligent buildings and automation
- Monitoring and control systems
- Electricity demand and supply problems
- Pumped storage hydroelectric power
- Internal reviews

## Reading
- Industrial process monitoring
- Dynamic demand controls

# UNIT 9
## Explaining tests and experiments
- Exchanging views on predictions and theories
- Comparing results with expectations
- Discussing causes and effects

## Words to describe test types
- Words and phrases for stating assumptions
- Words and phrases for agreeing and disagreeing
- Phrases for comparing expectations and results
- Words for linking causes and effects

## Listening
- Vehicle design and testing
- Water rockets
- Moon landings

## Reading
- A rocket competition
- Chicken cannon

# UNIT 10
## Discussing performance and suitability
- Describing physical forces
- Discussing relative performance
- Describing capabilities and limitations

## Adjectives for describing suitability and performance
- Words to describe types of forces factor, criteria, criterion, consideration
- Words and phrases to describe degrees of difference
- Words to describe capabilities and limits

## Listening
- Wind turbine towers
- Tall structures
- TGV world speed record
- The story of John Paul Stapp

## Reading
- Wind turbines fact file
- Solar towers
- Transport alternatives
- The Sonic Wind tests
- The rocket sled proposal

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