

Výukový materiál zpracovaný v rámci operačního programu Vzdělávání pro konkurenceschopnost



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

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Šablona: II/2 Inovace a zkvalitnění výuky cizích jazyků na středních školách

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Číslo: VY_22_INOVACE_PRO_1.,2.,3.,4.,ROC_21

Technical English



Předmět:	Anglický jazyk
Ročník:	1.,2.,3.,4.,ročník
Klíčová slova:	engineer, metal, steel
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Technical English

Engineering



Engineering

- Is the art of designing and creating practical applications from the knowledge gained from science.
- The activity of applying scientific knowledge to the design, building and control of machines, roads, bridges, electrical equipment etc.

Engineer

- A person whose job is to design, build or repair engines, machines etc.

Technical English

Engineering

Some branches of engineering are:

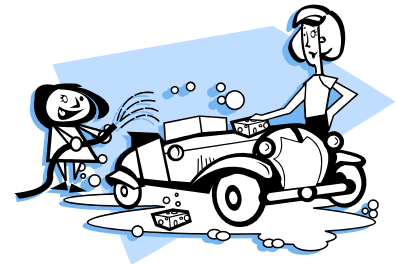
- **Civil engineering**

(building, roads, bridges, canals...)



- **Mechanical engineering**

(designing, making and using machines and tools)



- **Electrical engineering**

(the design and building of machines and systems that use or produce electricity)



- **Agriculture engineering**

(the design of agricultural machines)



Technical English

Engineering

Material used in engineering:

Metallic materials

- Steel and cast iron, aluminum and its alloys, zinc, lead, copper and its alloys, titanium
- Metallic material is used for production of component as well as for working and shaping of products
- They are used also as connecting material

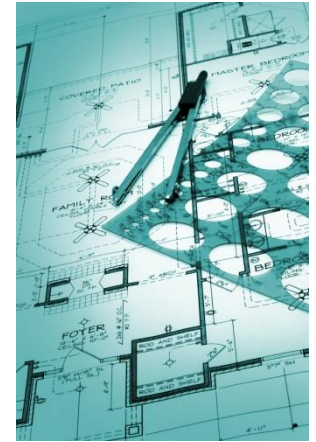
Non- Metallic materials

- Plastics, ceramics, corundum



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Engineering



Methods used in engineering:

Technical drawing (drafting or draughting)

- is the act and discipline of composing plans that visually communicate how something functions or has to be constructed.

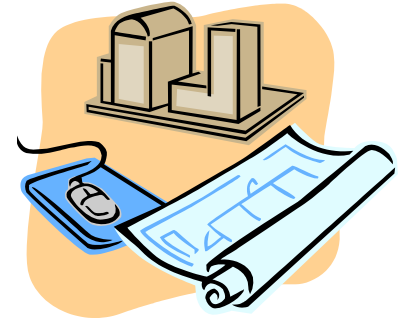


Computer-aided design (CAD)

- is the use of computer systems to assist in the creation, modification, analysis, or optimization of a design. CAD output is often in the form of electronic files for print, machining, or other manufacturing operations.

Technical English

Engineering



Stages of product's development:

- 1) Product planning (What could it be?),
 - Marketing (Who is it for?)
 - Design (What does it look like?, sketches)
- 2) Concept phase
 - Construction of a test model (prototype) and its evaluation (effectiveness)
- 3) Production and selling new product

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Engineering



Practice 1 Reading

Development and production



R&D DEPARTMENT is a longstanding and stable research, development and testing facility of Zetor company.

- It is based on inexhaustible amount of agricultural tractors, engines and components innovative projects.
- these are regularly implemented into serial production since 1946.
- It constitutes high professional level of research specialist team, which use wide knowledge base and professional skills supported by the most efficient CAD technologies.

Technical English

Engineering

- It provides complex system research and production programme development from concept, design, construction, functional sample and prototypes production up to tractors and motors laboratory and working tests and legislation ensuring of innovated production programme.



Zetor Forterra HSX



Zetor Proxima Cabrio



Zetor Major



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Engineering



Practice 2 (true or false)

- 1) T/F R&D DEPARTMENT is a longstanding and stable research, development and testing facility of Zetor company.
- 2) T/F It is based on inexhaustible amount of washing machines, engines and components innovative projects.
- 3) T/F It constitutes high professional level of research specialist team, which use wide knowledge base and professional skills supported by the most efficient CD ROM technologies.
- 4) T/F It provides complex system research and production programme development from concept, design, construction, functional sample and prototypes production

Technical English

Engineering



Practice 2 (answer the questions)

- 1) What is engineering?
- 2) Who is an engineer?
- 3) What methods do engineers use to design a product?
- 4) Name at least 3 branches of engineering.
- 5) What material do you need to produce a hook for your keys?
- 6) What is planning in engineering?
- 7) What does an engineer do during the concept phase?

Check your answers

Practice 1

1T	2F	3F	4T
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Practice 2

Slides 3-7, students' own answers



Použité zdroje



- Veškeré použité obrázky (kliparty) pocházejí ze sady Microsoft Office 2010.
- Všechny fotografie pochází z archivu autora nebo Wikipedie
- O'Sullivan N., Libbin J.D., *Engineering*, Express Publishing 2011
- <http://www.zetor.com/development-and-production>
[8.12.2013](#)
- White L., *Engineering*, OUP 2003

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