ENGLISH

LANGUAGE AND COMMUNICATION SKILLS

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NAABIHSTORE@GMAIL.COM

نبيه

Language and communication skills

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Introduction

Effective communication is a key skill for any engineer to have, regardless of their level of experience or the specific project or industry they work in. As an engineer, whether you are communicating with your superiors, colleagues, or subordinates or even to clients and customers, the way you communicate can significantly impact the success of your projects and the overall efficiency of your team .

يعد التواصل الفعال مهارة أساسية يجب أن يتمتع بها أي مهندس. يمكن أن تؤثر الطريقة التي تتواصل بها بشكل كبير على نجاح مشاريعك والكفاءة الشاملة لفريقك.

Here are a few tips on how engineers can effectively communicate:

1. Be clear and concise.كن واضح وموجز
2. Use visual aids.استخدم الوسائل البصرية
3. Listen actively.استمع بنشاط
4. Consider your audience.فكر في جمهورك
5. Use multiple channels.استخدم قنوات متعددة

Today's Climate for Engineering Education

There is an ever-increasing need to enhance the teaching and learning of professional English communication skills which has become a prerequisite for employment and recruitment.

هناك حاجة متزايدة باستمرار لتعزيز تعليم وتعلم مهارات الاتصال المهنية باللغة الإنجليزية والتي أصبحت شرطًا أساسيًا للتوظيف.

No one denies the great importance of receptive skills (listening and reading) in the language learning process. However, undergraduate professional communication needs in terms of priority include other productive skills such as speaking and writing in addition to a solid linguistic background (general as well as specialized or technical vocabulary repertoire). Equally important, good grammar skills are highly required for accurate use in various professional settings

It is worth noting that it has become common for engineering colleges to resort to English departments for showing compliance with the requirement of the Accreditation Board for Engineering and Technology (ABET) that all graduating engineers possess the 'ability to communicate effectively in both spoken as well! as written forms. In response to these issues, it is crucial that university English Departments design core courses like English for Professional Communication that play an important role in fulfilling the requirements as well as to prepare engineering undergraduates in order to achieve their full potentials as future professional communicators. This requires a new look at one component of English for Specific Purposes (ESP) that is English for Professional Communication.

متطلبات مجلس الاعتماد للهندسة والتكنولوجيا (ABET) بأن يمتلك جميع المهندسين المتخرجين القدرة على التواصل بشكل فعال باللغة الإنجليزية تحدثاً وكتابةً

Accreditation Board for Engineering and Technology (ABET)

English for Specific Purposes (ESP)

Engineering: What is it all about

And engineers are, when it comes right down to it, creators .

The word "engineering" itself comes from the Latin ingenium, meaning "cleverness", and ingeniare, meaning "to design or devise". You might think of engineering as a kind of science and that's not wrong. But it's more useful to think of science as a tool, a tool that engineers use - along with mathematics to perform their unique duties.

أصل كلمة هندسة لاتينية وتعني ذكاء وبراعة

Math is at the core of engineering, but what's more important are the ideas and the applications. They help us understand how we use math to solve problems .

الرياضيات هي جوهر الهندسة والأهم من ذلك الأفكار والتطبيقات التي تساعدنا كيف نستخدم الرياضيات لحل المشاكل

In the process of designing clever things, what engineering really does is solve problems.

Today, engineering is much broader and more varied than it used to be. That's because engineering originally referred specifically to military engineering .

أصبحت الهندسة اليوم أوسع بكثير وأكثر تنوع مما كانت عليه من قبل. وذلك لأن الهندسة كانت تشير في الأصل إلى الهندسة العسكرية.

Military engineering involves designing and building military works, along with ways of communicating and transporting people and things. Think of catapults, trebuchets, and siege towers. These types of war machines and military structures have been found as far back as 11th century BCE, by the Babylonians and Assyrians .

تم العثور على هذه الأنواع من آلات الحرب والهياكل العسكرية في وقت يعود إلى القرن الحادي عشر قبل الميلاد، من قبل البابليين والآشوريين.

The first of the modern field of engineering to emerge after military engineering was civil engineering .

أول مجال هندسي حديث ظهر بعد الهندسة العسكرية هي الهندسة المدنية

This branch had its official start around the 18th century. Like the name implies, civil engineering was used for civilian purposes, rather than military ones. It focuses on building structures of all kinds, along with dams, bridges, highways, airports, harbors, hospitals, colleges sanitation systems, and even entire cities .

بدأت الهندسة المدنية رسميًا في القرن الثامن عشر تقريبًا. وتم استخدامها للأغراض المدنية، وليس للأغراض العسكرية

The 19th century led to an increasing focus on the machinery industry, which gave rise to the branch of mechanical engineering .

في القرن التاسع عشر ركزوا على صناعة الآلات مما أدى الى ظهور فرع الهندسة الميكانيكية

Which I must say, as a mechanical engineer myself, is a fine discipline .

This branch focuses on machinery and mechanical systems, from robots to engines. Thomas Savery and Thomas Newcomen, two English inventors who are credited with creating the steam engine in the early 1700s, were both mechanical engineers. And so was James Watt, the Scottish scientist who made their design much more efficient by recapturing the steam in the engine. The industrial revolution was led by mechanical engineers like them .

تركز الهندسة الميكانيكية على الآلات والأنظمة الميكانيكية، من الروبوت ات إلى المحركات. المخترعان الانجليزيان توماس سيفري وتوماس نيوكمان يُنسب إليهما الفضل في إنشاء المحرك البخاري في أوائل القرن الثامن عشر وهما مهندسان ميكانيكيان. والعالم الأسكتلندي جيمس وات جعل تصميمهم أكثر كفاءة من خلال استعادة البخار في المحرك. قاد الثورة الصناعية مهندسون ميكانيكيون مثلهم

Electrical engineering was a natural progression once we were able to generate electricity and create electronics. Dating back to the 19th century, electrical engineering deals with devices and systems that can range anywhere from microchips and cell phones to the giant power station generators that help supply energy to big cities.

كانت الهندسة الكهربائية بمثابة تطور طبيعي، بمجرد أن تمكنا من توليد الكهرباء وإنشاء الإلكترونيات. ويعود تاريخها الى القرن التاسع عشر.

Electrical and mechanical engineering often come together to create some pretty fantastic inventions .

غالبًا ما تجي الهندسة الكهربائية والميكانيكية مع بعض

Another field was founded in the late 19th century: chemical engineering. These engineers have quite a wide focus, not only designing and operating chemical plants that do things like refine oil and distill alcohol. They also deal with food, medicine and drugs, the environment, and much more.

ظهرت الهندسة الكيميائية في أواخر القران التاسع عشر.

Together, civil, mechanical, electrical, and chemical engineering are often seen as the four main branches of engineering in the modern world .

غالبًا ما يُنظر إلى الهندسة المدنية والميكانيكية والكهربائية والكيميائية معًا على أنها الفروع الأربعة الرئيسية للهندسة في العالم الحديث.

But there are many more fields that specialize even further. We have aerospace engineers building machines that fly in the air and space; nuclear engineers harnessing the energy released from nuclear reactions; and biomedical engineers creating medical equipment and devices to solve clinical problems.

هناك العديد من المجالات التي تتخصص بشكل أكبر. مثل مهندسين الطيران والفضاء الجوي والمهندسين النوويين ومهندسي الطب الحيوي

And one branch that supports all of them is industrial engineering. Engineers in this field design and optimize the facilities, equipment, and systems that many other engineers use to create their products. Think of them as the support class of the engineering world. They provide the all-important groundwork for many of our engineering advances.

هناك فرع يدعمها جميعا وهو الهندسة الصناعية. يقوم المهندسون في هذا المجال بتصميم وتحسين المرافق والمعدات والأنظمة التي يستخدمها العديد من المهندسين الآخرين لإنشاء منتجاته

With the power of engineering at our fingertips, we've already been able to do some pretty amazing things. We've built spaceships that have sent people to the moon and given Mars a few rovers, which are fantastic works of engineering

themselves. We've made artificial hearts to pump blood through the human body and artificial limbs to replace the ones that were lost. We've designed giant skyscrapers that wave at the clouds and show the world just how high we can reach .

بالقوة الهندسية بنيت سفن فضائية وصنعت قلوب صناعية وأطراف صناعية وصممت ناطحات سحاب