



# Professional Communication in English for Engineers: An Online Course

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## **Paper Summary**

**The paper presents a practical approach to teach engineering students the principles of professional communication in a contemporary interconnected world.**

**It focuses on modern communication techniques in engineering, as opposed to mastering the English language itself.**



Wk	Topic Description	Hrs	Activity	Wk	Topic Description	Hrs	Activity
1	Main Concepts of Professional Communication. Individual Introductions. Messages to Class	3	Student introductions Instructor messages.	6	Connecting via professional platforms: LinkedIn, Research Gate, IEEE Societies	3	Connecting w/ LinkedIn
2	Observation of a Professional Meeting Online and/or Participation in a Webinar. Agenda, Taking Minutes.	3	Writing minutes. Minutes approval	7	Travel to Customers, Seminars – Participating, Presenting and Reporting	3	Writing a Trip Report
				8	Writing Professional CV's	3	CV special format
3	Professional Writing: Research Papers, Technical Reports and Other Technical Documents	3	Writing a Technical Report	9	Producing Press Release, Observing Professional Ethics (email, social networks, etc.)	3	Writing a Press Release
4	Preparing Professional Slides in Technical/Engineering Disciplines	3	Producing & presenting slides/poster	10	Principles of Developing Professional Websites	3	Skeleton of a website
				11	Designing and Producing Visuals: Photos and Videos	3	Produce a project video
5	Professional Terminology in Specific Discipline. Professional Translations	3	Translate a document into English	12	Summary and Final Remarks	3	Get together

# Succinct Description of the Course



## Week #1

**#1 Individual Introductions  
Messages to Class**

**#6 Professional Communities:**

- LinkedIn
- Research Gate
- IEEE Societies

**#8 Professional C.V.**

**#9 Producing a Press Release**

**#10 Developing Professional Websites**

**#11 Producing Project Videos**

**#12 Course Conclusion**



## Week #2

### **Meeting Agenda of the Professional Communication in English Course. March 5, 2018; 17:15-19:45**

1. Introductions (ALL)
2. Preparation for the Observation of a Professional Meeting over the Internet (Dr. Zalewski)
3. Passive Participation in the IEEE WG P1876 Mtg (ALL)
4. Discussion of the Course Contents (Dr. Zalewski)
5. Writing Minutes of the Observed Online Meeting (ALL)
6. Any Other Business



# Week #2

## Minutes of the Professional Communication in English

Gdańsk Univ. of Technology, March 5, 2018;  
17:15-19:45

Minutes Taker: *Name of the Student*

### 1. Introductions

Upon request of Dr. Zalewski, students introduced themselves and presented their reasons why they picked this course.

### 2. Preparation for the Observation of a Professional Meeting

Dr. Zalewski explained elements of the professional meeting over the Internet, including explanation of the Agenda, how meeting progresses throughout its Agenda, who is WG chair. Additionally, Dr. Zalewski asked students to take notes of the online meeting. which was about to start.

### 3. Passive Participation in the IEEE WG P1876 Online Mtg

Students, while listening to the online meeting, were taking notes. In the meantime Dr. Zalewski took active participation in the meeting and also due to the poor quality of sound was explaining what was discussed in each item of the agenda.

### 4. Discussion of the Course Contents

Dr. Zalewski discussed the course syllabus, explaining each item, which will be covered during this course, as well as the grading system.

### 5. Writing Minutes of the Observed Online Meeting

Due to the lack of time this point was skipped and moved to the next class meeting.

### 6. Any Other Business

Dr. Zalewski showed the students the official sites of IEEE Societies and the Power and Energy Society, in particular: <https://www.ieee-pes.org/>. He explained why participation in these activities will be beneficial to students in the future and also showed examples of standards that IEEE developed.



## Week #3

- 0) Separate title page**
  - 1) Introduction**
  - 2) Principles of the Technology**
  - 3) Applications of the Technology**
  - 4) Conclusions**
  - 5) References**
- Project Reports are more extensive**



## Week #3

**Work on the reports can enhance technical English, for example:**

- the word “data” is plural; from Latin “datum” (such as “media” is plural from “medium”, etc.)**
- spelling of all proper names, even if technical, must start with a capital letter, for example, Ethernet, Internet, etc.;**
- acronyms must be spelled out in capitals, for example “USB” not “usb”, etc.**





# Week #4

**Lego Mindstorms Web Control**  
 Jonathan Icker, Timothy Murawley  
 Team Mentor: Dr. J. Zalewski  
 FGCU Computer Science Program

**FLORIDA GULF COAST UNIVERSITY** **mindstorms**

**INTRODUCTION**  
 Robots are used in many every industry:  
 - Home Automation  
 - Industrial and Ocean Exploration  
 - Search  
 - Healthcare  
 - Education

**ABSTRACT**  
 This paper describes the process of a collaborative robot that uses an Arduino Uno and a Raspberry Pi 3B+ to control a LEGO Mindstorms robot. The robot is controlled via a web browser interface. The robot is able to move in a 2D plane and can be controlled via a web browser interface. The robot is able to move in a 2D plane and can be controlled via a web browser interface.

**OBJECTIVE**  
 - Develop software to allow a user to interact with the Lego Mindstorms robot through a remote web browser.  
 - There are two Lego robots: the NXT and the EV3.  
 - There are two ways of communicating with the robot: Bluetooth and WiFi.

**SYSTEM DESCRIPTION**  
 Software uses a server-client design for Wi-Fi communication.  
 - The client is a website which receives user input  
 - Website sends the input to a server on the cloud.

**SYSTEM**  
 Successful implementations must be able to:  
 - Connect to robot via the web.  
 - Submit commands to robot via web interface.  
 - Move the robot successfully.  
 - Execute these commands.

**CONCLUSION**  
 The Lego Mindstorms robot was able to control a website via Wi-Fi. The robot was able to control a website via Wi-Fi. The robot was able to control a website via Wi-Fi. The robot was able to control a website via Wi-Fi.





## Week #5

Polish Text [2]. **Jak działa elektrownia jądrowa?** Technologia wytwarzania energii elektrycznej została w uproszczeniu przedstawiona poniżej na przykładzie elektrowni jądrowej wyposażonej w reaktor wodno-ciśnieniowy, który jest najczęściej spotykanym typem energetycznego reaktora jądrowego. W reaktorze tym jako paliwa używa się głównie nisko-wzbogaconego uranu, zaś moderatorem neutronów i chłodzikiem jest zwykła (lekka) woda będąca pod ciśnieniem na tyle wysokim, że nie wrze. W nomenklaturze angielskiej ten typ reaktora znany jest pod skrótem PWR (Pressurized Water Reactor), a w rosyjskiej WWER (Wodo-Wodianoj Energeticzeskij Reaktor).



## Week #5

English Text. **How Does a Nuclear Power Station Work?** The technology of generating electricity is presented in simplification in Figure 1.17. It shows an example of a nuclear power station equipped with Pressurized Water Reactor. This is the most common type of a nuclear power reactor. In such reactor, mainly a low-enriched uranium is used as a fuel. The neutron moderator and coolant is an ordinary (light) water under the pressure high enough that it does not boil. In English terminology, this type of reactor has been known under the acronym of PWR (Pressurized Water Reactor), and in Russian – WWER (Wodo-Wodianoj Energeticzeskij Reaktor).



## Week #6

#1 Individual Introductions  
Messages to Class

**#6 Professional Communities:**

- LinkedIn
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#8 Professional C.V.

#9 Producing a Press Release

#10 Developing Professional Websites

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#12 Course Conclusion



**Student Group on Power Engineering, WEiA, PG**

**April 4, 2018; Trip Report #03/2018**

**Event Name:** Education Trip to a Nuclear Reactor

**Location:** Nat'l Center of Nuclear Research, Świerk, Poland

**Date:** March 28, 2018

**Background.** This trip was a part of a mandatory requirement of a laboratory "Nuclear Power Safety" and was arranged [...]

**Summary.** The group arrived in Świerk by bus at 10:00 am. We were met by a person responsible for visitors [...]

**Conclusion.** The trip was important from the perspective of gaining professional experience, since none of us had seen a real nuclear reactor before. The trip could have been more valuable, if there were a scientist or an engineer present and competent to answer questions about the principles and operation of the reactors.

**Materials.** The Instructor received a book on the structure and operation of the Center.

**Cost.** The cost of the trip was covered in half by the students, and half by the University.

# Week #7



## Weeks #8-12

- #1 Individual Introductions
- Messages to Class
- #6 Professional Communities:
  - LinkedIn
  - Research Gate
  - IEEE Societies
- #8 Professional C.V.**
- #9 Producing a Press Release**
- #10 Developing Professional Websites**
- #11 Producing Project Videos**
- #12 Course Conclusion**



## Conclusion

- The course introduces engineering components to traditional understanding of professional communication
- It was offered in a hybrid mode at Gdansk University of Technology during the Spring 2018 semester to students of Power Engineering