Politechnika Wrocławska

Wirtualne Środowisko Nauki SJO

Projekt Studium Języków Obcych
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Język angielski
w środowisku pracy inżynierów

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Student`s Academic Profile
C1+

Contents:

Presenting academic profile

TASK 1

Ignoring the gaps (I-V), read the interview with a former electronic engineering student and complete the gaps (1-20) with correct prepositions. Sometimes more than one answer is correct. Then, read the text again and complete the gaps (I-V) with correct fragments (A-F). There is one fragment which you do not need to use.

What attracted you to Electronic Engineering?

I initially heard about the course through my brother, who had **completed it** two years before me. His experience **gave me a good insight (1) ..... what was covered**, the practical aspect applied to all subjects **in the form of labs and project assignments**. I was also **attracted (2) ..... the wide range of subjects** taught as I wanted and a broad understanding of Engineering before **picking my specialty**. In the first year, all the Engineering degrees, Electronics, Telecommunications, Digital Media, etc. **shared the same course syllabus** and **as the years progressed**, the modules became more specific and challenging **(3) ..... the chosen area**. Course Modules varied from English, Mathematics, Physics and Software Engineering **(4) ..... the first** year to Industrial Electronics, Digital Signal Processing and Systems & Analogue in my final year.

What were your first impressions of the school and of the Engineering programme?

I was very **impressed (5) .....** how this university organized our first few weeks – we had introductions to our Faculty and to the gym, library and of course the social life and societies. **I found the Engineering course well-structured**, and **started (6) ..... from a beginners level** of theory helping the transition into college life. The lecturers were very understanding and helpful. The course also provided numerous lab sessions which gave us **exposure to the practical side of engineering** (7) ..... day one.

What did you think were the best parts of the programme? And what were the most challenging aspects?

One of the great things offered was the INTRA placement in our third year. This was a **six-month internship** from April to September where our university helped find an internship in a similar

area to what you were studying. The **application process was handled by (8) .....** the INTRA staff, but also involved applying for a number of placements **(9) ..... offer and partaking in interviews (10) .....** the HR teams of these companies before getting a placement. This was a very beneficial experience in itself. (I) _____ **Having this experience** behind me when finishing the Engineering course really stood to me. The opportunity to **work (11) ..... your own final year project** was both challenging and worthwhile at the same time. For my project, **I developed** a GPS Receiver System which communicated with GPS satellites to calculate your location, and display it in a small handheld device. Although it may seem quite a common device these days, this handheld unit **involved working with innovative technology** of the time, 5 years ago, unlike your personal GPS navigator today! (II) _____ This format really **pushed me to reach my full potential** to achieve the best **outcome of the project**. (12) ..... completion, this Final Year Project was **shortlisted for** an Ericsson Undergraduate Award along with another project from this university.

What did you do when you graduated?

On completion of my undergraduate degree, and **achieving First Class honours**, I successfully **obtained** a placement on the FAS Science Graduate Program promoted by the Engineering School. This consisted of an intensive work over in NASA, Cape Canaveral, Florida, among the finest and most sophisticated Engineers and Scientists in the world. **Primarily, we completed demanding projects (13) .....** The Florida Space Authority. Such **projects dealt (14) .....** Mobile Robotics, Rocket calculations, payload construction, designing of GPS circuitry and transmission of video signals 10,000 feet above. **The program also consisted (15) ..... in-depth** lectures and presentations **(16) .....** topics such as Stellar Astrophysics, Cryogenics, Aviation Physiology and Human Space Exploration. **As part of the program**, we were in the position to meet and **become acquainted (17) .....** many top scientists and engineers working within NASA. (III) _____ This was **a truly amazing experience** and an opportunity that wouldn't have been an option without my Engineering degree from my university. Moreover, I undertook a course called Masters of Business in Project Management from Michael Smurfit School of Business **to complement my Engineering background with** an understanding of management of technical projects and new product development. Over one year, I completed eight **core modules** which covered **specialist courses** within this area again achieving my degree with honours. (IV) _____ **This**

internship involved the development of a technical solution and project business plan for a new and innovative product, which **addresses** an existing market challenge. I undertook the Project Management role within this team and compiled my Business Plan on this project for my thesis.

What are you doing now?

I was lucky enough **to secure a position as** Online Media Associate in Google, Dublin, in the AdWords Operations department. Since I started, I have **thoroughly enjoyed** working in this area. (V) _____ **Alongside working (18) ..... Google,** I have returned to my university to complete a **part-time** 2-year Masters in Telecommunications. I hope this will help create new opportunities for me **in the field of** Telecommunications projects where I would hope to specialise in the future.

Why should people pursue a degree in engineering?

I believe my engineering degree is a very **valuable asset** and will also stand to me in the future. I was able to secure a job in Google based (19) ..... my academia and experience. Having a degree that can be transferred from business (20) ..... business is so important nowadays.

adapted from https://www.dcu.ie/electronics/profiles.shtml

A. It is a challenging yet motivating environment where **innovation and implementing change is constant** and part of my daily job.
B. **I was assigned a lecturer** to work with me throughout the course of the project, ensuring my access to any special equipment I needed or contact with specialists I needed to talk with.
C. In June, **on obtaining a place on** the Extreme Blue Internship in IBM, I decided to undertake the completion of my thesis **in association with** IBM.
D. Creating GPS databases was the most difficult tasks of the three as it comprised of analysing numerical information, plotting the results on a diagram and highlighting best location points.
E. In my case, I got the chance to work in AIB's IT Operations department working with the upkeep of their IT systems used internally by their sales force.
F. We were introduced to their high-tech laboratories and got up front inquisition on their current and future project being completed there.

TASK 2

Work in pairs. Using the phrases in bold, get ready to answer the same or similar questions your partner will ask. Then swap roles. You can ask any additional questions you like.

Describing research

When talking about your research interests, projects under way or research plans it is crucial to follow a logical plan of action. Here are a few tips on how to organize the account of your research:

I. Describe the research area: general situation in the selected research area, stressing why it is important/relevant/useful.

TASK 1

Work with a monolingual dictionary and/or a thesaurus and/or a collocation dictionary and look for words to insert in the gaps below in order to create correct and logical phrases. Each gap should be filled with a different word! More than one answer is possible in each point.

1. ... is a/an _____ property of …
2. ... is a/an _____ factor characterised by …
3. ... plays a/an _____ role in the maintenance of …
4. In the field of ... , ... has become a/an _____ issue for …
5. ... is increasingly recognised as a/an _____ issue concerning ...
6. ... plays a/an _____ role in ...
7. In the history of ... , ... has been thought of as a/an _____ factor in …
8. ... _____ aspect of ... is …
9. A/an _____ concern of ... is …
10. ... is an increasingly _____ area in ...
11. _____ to the entire discipline of ... is the concept of ...
12. The issue of ... has received _____ critical attention...
13. One of the most _____ current discussions in ... is ...
14. _____ developments in ... have heightened the need for ….
15. _____ trends in ... have led to a proliferation of studies that ....

16. _____ developments in the field of ... have led to a renewed interest in ….
17. _____ advances in the field of … have led to ...
    _____ changes reflected in ...

TASK 2

Use the words from the box to complete the phrases below. Each word should be inserted in correct form. In several points more than one answer is possible.

determine	publish	show	conduct	report	explore
examine	investigate	concern	make	suggest	

1. Previous studies have _____ …
2. Recent evidence _____ that …
3. Several attempts have been _____ to …
4. Studies of ... _____ the importance of …
5. Recently investigators have _____ the effects of X on Y.
6. Factors found to be influencing ... have been _____ in several studies.
7. In the past two decades a number of researchers have sought to _____ …
8. A considerable amount of literature has been _____ on ... These studies …
9. Surveys such as that _____ by Thomson (2015) showed that …
10. What we know about ... is largely based upon empirical studies that _____ how …
11. The author shows how, in the past, research into ... was mainly _____ with …

II. Present a short review of previous research on the topic and show how your research is going to supplement the already existing findings.
Outline the topic/research area/nature of your research and present a description of your research project divided into steps/sections/levels.

TASK 3

Read the mock problem statement below and improve its overly simplified language to make it sound more formal with the use of the prompts below. Make any necessary changes/additions to the prompts. The fragments requiring improvement are underlined, however, you can further improve the statement if you like.

importance	an objective
to highlight	to define
comprehensive review	to ensure
present	to outline
on	a framework
to provide	a finding
to raise an issue	a need
to devise	to determine

A Conceptual Framework for Scheduling Constraint Management

A constraint-free and reliable work plan has long been (1) shown by the industry, (2) which believes it is important [=use nominalization]. (3) We need a better understanding of constraints in construction and a structured (4) idea for identifying and modeling constraints (5) to make sure a constraint-free work plan needs (6) to be made. (7) This research (8) will give a formalized constraint management system. Constraint management (9) is the process of identifying, classifying, modeling, and resolving constraints. (10) The study is to give (11) good picture of literature and industry practices (12) about constraint analysis and (13) find various aspects of constraint management. The (14) goal of the research (15) is to show a review of sources and characteristics of constraints typically found in construction projects. (16) The results of this study will be valuable to the industry practitioners as well as related software providers in developing better practices and tools for constraint management and look-ahead scheduling.

adapted from *http://www.uh.edu/~lsong5/documents/A%20sample%20proposal%20with%20comment.pdf*

III. Present research findings using appropriate and varied vocabulary

TASK 4

Choose the correct option.

The present study makes several (1) *notwithstanding/noteworthy* contributions to the issue of coating for hip implants. It does not (2) *bear/strike* resemblance to any other experiments but (3) *stems/draws* heavily on the work of the MIT team who can control the thickness of a coating film and the amount of growth factor released by using a method called layer-by-layer assembly. Having collected and (4) *precisely/thoroughly* examined the evidence, the team were able to support the theory stating that it is (5) *feasible/credible* to (6) *employ/hire* this method in which the desired components are laid down one layer at a time until the desired thickness and drug composition are achieved. This is a significant advantage because it is in (7) *highlighted/marked* contrast to other systems so far which have really not been able to control the amount of growth factor that you need. Comprehensive data and (8) *vivid/flamboyant* examples collected so far indicated that a lot of devices typically must use quantities that may be orders of magnitude more than you need, which can lead to unwanted side effects. Jeremy Gilbert, professor of biomaterials at Syracuse University, says the work is (9) *healing/bridging* the gap between old and experimental methods and "an elegant approach to engineering surfaces to drive bone healing. It's a nice combination of polymers, ceramics and growth factors, combined in a way that does look like it has some effects on the stem cell that are growing on it." A number of possible future studies with the use of the same experimental (10) *set on/set up* are recommended; however, the (11) *cutting-edge*/*interim* results seem promising.

adapted from *http://news.mit.edu/2012/hip-implants-nanoscale-coating-0419*

IV. Analyse the research findings and draw conclusions

TASK 5

Complete the table with missing words.

VERB	NOUN
	assessment
identify	
exacerbate	
	determination

	hypothesis
indicate	
confirm	
compute	
	observation
occur	
	significance

TASK 6

Work with online dictionaries and find as many possibilities to paraphrase this sentence as you can.

This	**visual material**	**shows**	**data about...**
The given ...	diagram ...	illustrates ...	the comparison of …

Applying for internships / job

As introduction to the tasks below, you may want to visit *https://biurokarier.pwr.edu.pl/en/* and/or Useful Links>>Job Offers to look for interesting job advertisements and useful language.

Read the descriptions of a Graduate Scholar Fermentation job in a leading chemical company below and a Consumer Personal Systems Demand Planner in an international IT company and do the tasks below.

TASK 1

Complete the gaps (1-10) in Job Description A with words from the box to make correct and logical sentences. Mind the forms.

maintenance	subordinate	insight	assign	expertise
optimize	principle	overall	conduct	broad

JOB DESCRIPTION A
(GRADUATE SCHOLAR FERMENTATION)

We offer a wide variety of competitive compensation and benefits programs. If you meet the requirements of this unique opportunity, and you have the "Passion to Innovate" and the "Power to Change", we encourage you to apply.

Your tasks and responsibilities:

- Plan, conduct and analyze media and process development experiments aimed to improve (1) ..... yield and productivity of microbial fermentations;
- Provide analysis and feedback about experimental results to supervisors, highlighting important results and defining next step experiments;
- Develop experiments that provide (2) ..... into the interactions between fermentation conditions and the physiology, productivity and stability of the relevant biological material. Experiments will be (3) ..... at a variety of scales, ranging from shake flasks to bench- scale bioreactors;
- (4) ..... fermentation processes through media and process development;

- Demonstrate knowledge of specialized laboratory and scientific techniques relative to area of (5) ..... and be responsible for lab equipment specific to research expertise, including (6) .....;
- Responsible for (7) ..... lab areas;
- Coordinate and cooperate on research activities with peers, supervisors, and (8) .....;
- Communicate effectively by listening, documentation, and presentation;
- (9) ..... understanding of instrumentation and scientific (10) ....., material forecasting and inventory management;
- Stay current with literature and the latest technology developments in the areas of interest.

Education and experience required:

- M.S. in field of expertise, plus 1+ years of relevant experience or equivalent;
- Ph.D. (or nearing substantial completion, provided all PhD requirements are successfully completed within 6 months of employment or start date) with no relevant experience;
- Degree in Chemical or Biochemical Engineering/Microbiology, or a related field;
- Previous industry experience, or experience with microbial fermentation processes is preferred;
- Research experience in field of expertise. Broad understanding of scientific principles;
- Ability to conceptualize, design and execute experiments that address research questions;
- Proficiency with experimental design, statistical analysis, and scientific instrumentation;

Skills and Abilities:

- Excellent organization and planning skills, immune to stress;
- Excellent verbal and written communication skills;
- Ability to troubleshoot fermentation equipment and process problems;
- Ability to work as part of a multi-disciplinary/multicultural research team.

adapted from *https://career.bayer.com/en/career/job-search/*

TASK 2

Use the underlined words to complete the sentences under the text. Mind the forms.

JOB DESCRIPTION B
(Consumer Personal Systems Demand Planner)

Our EMEA Consumer Desktop Team is growing in numbers and capabilities! If you are passionate about new ideas and solutions – join us to embark on a diverse and exciting career path in a dynamic, high-tech environment. As a Consumer Personal Systems Demand Planner, you will be working with EMEA countries and regional business units developing and deploying strategies to help us grow our business.

Your tasks and responsibilities:

- Contribute to a broad range of complex supply chain processes, such as demand planning, sales and operations planning (SOP), inventory analysis and planning.
- Identify opportunities for process improvement and develops recommendations and provides insight for management.
- Execute complex demand and supply matching activities, connecting planning to execution, and identifying issues and their impact.
- Work cross-functionally to prioritize backlog.
- Partner with regional business units and supply bases to generate and deliver demand signals.

Education and Experience Required:

- First level university degree or equivalent experience; advanced university degree preferred.
- Typically 2-3 years of experience in a supply chain function.
- Experience in more than one supply chain function
- Understanding of supply chain processes (plan, source, make deliver).
- Identifies cutting-edge analytical tools, models and methods for making key business decisions.
- Good communication; fluency in English

- Extensive knowledge and understanding of how to analyze business problems using Microsoft Office skills (Excel, PowerPoint, etc.)

Skills and Abilities:

- Problem identification, troubleshooting
- Leadership skills
- Excellent organizational and record keeping skills
- Willingness to travel and motivation to work internationally
- Team-minded and outgoing personality
- Proficient verbal, presentation and written communication skills in English

adapted from *https://h30631.www3.hp.com/job/prague/consumer-personal-systems-demand-planner/3544/5243476*

1. All the production ..... are required to provide their supervisors with monthly reports and annual cost calculations.
2. At university students have an opportunity to learn about such ..... subjects areas as electronics, architecture or civil engineering.
3. City water ..... are secured by two reservoirs with a large volume located nearby.
4. Due to increased ..... for experts in biotechnology, many graduates from Central Europe found well-paid positions in the USA.
5. Having graduated from the technical university, Tim ..... on a new and exciting career in electrical engineering in India.
6. One mile is ..... to 1.609 kilometers.
7. Our HR department will employ extra staff to tackle the ..... of applications from technical university graduates hoping to work for us.
8. Prof. Johnson`s team are working on a/an ..... technology preventing hip implant degradation in elderly patients.
9. The article offered considerable ..... into the question of laboratory risk management.
10. The company hired a team of specialists to ..... the system and provide software assistance.

11. The computing ..... of the machine allowed mathematicians to tackle even the most complex problems with ease.
12. The ..... of the scheme proved far more complex than the research team had anticipated due to unforeseen hardware problems.
13. The oil company ..... all its resources to fight soil contamination caused by a major pipe leakage last month.
14. The technical ..... provided by our department is the most impressive - we have not only numerous all-terrain cranes and wheeled excavators, but also a backhoe loader.
15. Visiting the production plant in Croatia exerted serious ..... on how I view modern effective extrusion blow moulding.

TASK 3

Imagine you would like to get one of the jobs advertised above. Work with your partner and together act out a mock job interview - you are the interviewee and your partner is the interviewer. When you finish, swap roles. Use the job interview questions below to help you.

1. Can you tell me a little about yourself?
2. How did you hear about the position?
3. What do you know about the company?
4. Why do you want this job?
5. Why should we hire you?
6. What are your greatest professional strengths?
7. What do you consider to be your weaknesses?
8. What is your greatest professional achievement?
9. Tell me about a challenge or conflict you've faced at work, and how you dealt with it.
10. Where do you see yourself in five years?
11. What's your dream job?
12. What other companies are you interviewing with?
13. Why are you leaving your current job?
14. Why were you fired?
15. What are you looking for in a new position?
16. What type of work environment do you prefer?
17. What's your management style?
18. What's a time you exercised leadership?
19. What's a time you disagreed with a decision that was made at work?
20. How would your boss and co-workers describe you?
21. Why was there a gap in your employment?
22. Can you explain why you changed career paths?

23. How do you deal with pressure or stressful situations?
24. What would your first 30, 60, or 90 days look like in this role?
25. What are your salary requirements?
26. What do you like to do outside of work?
27. If you were an animal, which one would you want to be?
28. How many tennis balls can you fit into a limousine?
29. Are you planning on having children?
30. What do you think we could do better or differently?
31. Do you have any questions for us?

https://www.themuse.com/advice/how-to-answer-the-31-most-common-interview-questions

ADDITIONAL TASK 1 (Presenting academic profile)

AT HOME: Select as many topics from the list below as you find relevant to you and get ready to tell others about them. Take some notes if you like, but you will not be allowed to read in class.

IN CLASS: [Student A] Pick a card, read the topic and talk about it for 2 minutes nonstop. Refer to your own experience as much as possible.

[Student B] While listening to your friend speak, think about 1 or 2 questions to ask them.

Swap roles a few times.

Soft Skills for Engineers	Your Areas of Expertise
Secondary School Preparation	Your Professional Experience
General Educational Background	Practical Technical Skills
Engineering Project	Internships
Master's Project	Hands-on learning at WUST
Writing a Dissertation	Extra-curricular activities at WUST
Professional Competencies	Presentations - piece of cake or nightmare
WUST Highlights	Your Research Interests
Favourite University Course	Study Abroad - good idea or waste of time
Least Favourite University Course	Language Competencies

ADDITIONAL TASK 2 (Describing research)

AT HOME: Select a research topic from your field and prepare a 3-minute presentation about it for your classmates and your teacher. Make sure you use as much language from the tasks above as possible. Before presenting your work to the group, check the pronunciation of any new words.

IN CLASS: Talk about your topic and then listen to your friends. While listening, think about 1 or 2 questions to ask your friends.

ADDITIONAL TASK 3 (Applying for internships / job)

AT HOME: Go online and find an internship/job advertisement matching your knowledge, experience and ambitions. Bring it to class and apply for it!

IN CLASS: Work in groups of 3. Show your advertisement to 2 other students from your group. Take part in an interview with your partners who will ask you a few questions and do your best to convince them that it is you who should be given a chance. When all the interviews are finished, the interviewers discuss whether to accept the candidates or not.