

English course for second year  
students

**Semester 3**

Mechanical and Manufacturing  
Engineering Department of the  
Institute of Technology  
Aix-Marseille University



School year 2023-2024

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# Advice and Organisation

English course for second year students in the Mechanical and Manufacturing Engineering department of the Institute of Technology.

Please be aware that there are nationwide objectives for this course, objectives that the English teacher must follow and the students must reach. They include a review of basic grammar and are focused on business English, both written and oral at a B2 level for the second year, aiming for B2/B2+ at the end of third year.

This year will be divided into full class courses and groups activities. For homework you will have exercises, presentation and writings to prepare. Also, you will have articles to read online on Ametice and questions to answer.

Your mark for this class, each semester, will be calculated by averaging your mark for the TD (Oral mark + tests + homeworks) and the final exam.

How to improve my English :

- Listenings : BBC Sounds / Audiobooks (via Youtube, Audible etc...)
- Films / series : (Netflix) Metal shop masters / The Future of
- Readings : Books / Comics / Articles online
- Grammar and vocabulary: bbclearningEnglish / Anglaisfacile.com
- Amulange: 7 speaking

## Job Interview



## Writing your résumé

Match the words with their definition:

Neatly	Possible in the future
To exaggerate	Deliberately choosing some things and not others
Bullet point	To bring attention to something important
To Highlight	Directly connected with what is happening or being talked about
Potential	The way that something is designed or arranged on the page
The lay out	to customize your resume to different positions.
To taylor	Symbols, usually small black circles, used in a text to separate each item in a list.
Selective	To make something seem bigger, more important, better, worse, etc. than it is
Relevant	In a simple and tidy way

### Business magazine: Writing a good CV – 1

Are the sentences true or false?

1. It's always a good idea to include a photo. ☐ True ☐ False
2. When you list your work experience, you should put the first job you did first. ☐ True ☐ False
3. The longer your CV is, the better it is. ☐ True ☐ False
4. Using active verbs rather than passive structures helps to create a good impression. ☐ True ☐ False
5. It's better not to mention periods of time when you were not in paid work. ☐ True ☐ False
6. You should always tell the truth on your CV. ☐ True ☐ False
7. Presentation and small mistakes don't matter – it's the content that's important. ☐ True ☐ False
8. Cover letters are nice to have but not entirely necessary. ☐ True ☐ False

Group discussion:

What should you include in a CV?

Place the following sentences in the corresponding categories

Excellent communicator who brings friendliness, confidence and empathy to leadership and delegation skills

Developed over 200 graphic design projects

Diploma in Graphic Design, York College (July 2008)

MA in Creative Arts and Design, Leeds Arts University (July 2011)

Proficient with Microsoft Office, Adobe Photoshop and Sketch

High levels of critical thinking, creativity and problem-solving skills

Led a team of six designers to develop graphic and production materials

BA in Philosophy, Politics and Economics, University of Oxford (June 1998)

Responsible for production in a reputable Seoul-based design firm

Skills	Education	Work experience. Chief Graphic designer

Eight useful tips

Before you start getting ready to list your qualifications and work experience, here are eight useful tips to think about.

1. Keep it short ... but not too short! Your CV should be one to two sides of A4 paper. If you find you've got too much information, summarise and select the most relevant points. If it's shorter than a page, consider including more information about your skills and the responsibilities you had in your previous roles.
2. Use active verbs. When you describe what you have achieved in previous jobs, use active verbs for a strong positive effect on the reader. For example, to make a change from was responsible for, use verbs like led or managed (a team / a project); created or developed (a product / a positive atmosphere); delivered (results/training); and provided (support/training).
3. Fill in the gaps. Avoid leaving gaps in your employment history. If you were travelling the world, on maternity leave or looking after small children, include that in your CV.
4. Make sure it's up to date. Always ensure your CV is up to date. Include your most recent experience at the top of each section.
5. Don't exaggerate or lie. Your potential employer can easily check information about where you have studied and worked. Don't be tempted to lie or exaggerate about your expertise, because sooner or later this will be discovered and may result in you losing the job.
6. Spend time on the layout. Make sure your CV is clear and easy to read. Use bullet points and appropriate spacing, keep your sentences short, line up your lists neatly and use a professional-looking font (e.g. Arial font size 12).
7. Check for mistakes. Mistakes on a CV create a bad impression. Use spell check, reread your CV and ask someone else to check it for you too before you send it.
8. Include a cover letter. When you send your CV to apply for a job, you should send it with a cover letter or email to introduce your application. The cover letter should show your personal interest in the role, highlight the skills and experience you bring and encourage the employer to read the attached CV.

Writing a good CV takes time and is hard work, but these tips and your effort will help you get the best possible start in your job search. Good luck!

Example: Read the following résumé. Find what is wrong and inappropriate.

# RICH ANDREWS

12345 MAIN STRET LEEDS LE3 5R

PHONE (76767) 456-7890

[RICHANDREWS400065@HOTMAIL.COM](mailto:RICHANDREWS400065@HOTMAIL.COM)

DTE OF BIRTH 12/05/74

## EXPERIECE

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2002- 2004	valley Chicken factory	Main Road, Leeds
<ul style="list-style-type: none"><li>▪ Killing chickens.</li><li>▪ Managing small team.</li></ul>		

2001-2002	Nice Flower Factory	Smalltown, Leeds
<ul style="list-style-type: none"><li>▪ Packing Flowers</li></ul>		

2000-2001	Quick Cabs	Terry Street, leeds
<ul style="list-style-type: none"><li>▪ Driving a taxi around leeds</li></ul>		

## EDUCATION

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1985-1990	Big School, Leeds	leeds
<ul style="list-style-type: none"><li>▪ 5 GCSEs including Maths and English</li></ul>		

## INTRESTS

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Playing music, football, pinball, chatting with friends, going to the pub, boxing, sleeping when it's raining outside.

Look at the second example. In pairs, discuss what can be improved.

Clues:

- Focus on the content of the qualifications summary category.
- Are these real accomplishments?
- Are the work experiences attractive enough?
- Consider the layout, anything which strike you?
- Would you say that this résumé is specific or generic?



ALEX

Address

(xxx) xxx-xxxx

email@eamil.com

## QUALIFICATIONS SUMMARY

Looking to obtain a position as a software engineer and apply my many years of experience and skills.

## SELECTED ACCOMPLISHMENTS

- Turning difficult complexities into smaller, cohesive summations and presentations.
- Outstanding presentational and communicational methods
- Collaborates well within a team and builds high performing teams.
- Great time manager

## PROFESSIONAL EXPERIENCE

### COMPANY NAME. XXXX – Present

CITY, STATE

#### *Job Title*

- ✓ Utilizing developing front-end with client side validating, middle-tier development, and back end managing. Discussing requirements with clients.
- ✓ Working towards defining technical issues and workflow solutions with clients and other teams.
- ✓ Estimating then providing time for tasks, schedules, and final delivered items.
- ✓ Progression monitoring against projections and reporting to managers and others.

### COMPANY NAME. XXXX – Present

CITY, STATE

#### *Job Title*

- ✓ Able to do complex program adaptations by taking specification and or requirements and translating into practical coding.
- ✓ Utilization of acquired more in-depth knowledge of business in support of applications design.
- ✓ Coding recognition, processing and or standardizing inefficiencies and making suggestions for improvement, if applicable.
- ✓ Proactively providing doc input noting program changes.

**Education:** 6/1991 School Name, City, St  
Bachelor's Degree  
Major

**Programming:** JQuery, Java, JavaScript, TSQL, C, C++, C#, Objective-C, VB Script, Perl, PHP, Python, Unix Shell Scripting

**Database:** SQL Server 2000, 2002, 2006, 2011, and Oracle 10g/11g

**Networks:** REST

**Software:** Win Form – WPF (.net), WCF

# ALEX

City, ST | (123) 456-7890 | email\_ID@email.com | [https://www.linkedin.com/in/LI\\_ID](https://www.linkedin.com/in/LI_ID)

## SOFTWARE ENGINEER ✦ DATABASE ADMINISTRATOR ✦ FRONT-END/BACK-END WEB DEVELOPER *Software Development ✦ System Design ✦ Process Improvements*

10+ years of experience as a detail-oriented Software Engineer with a proven track record for gathering requirements then designing and developing applications. Excels at learning new technologies and applying them to develop clean and well-structured code. Experienced at working in a cross-functional environment at all stages of a Software Development Life Cycle (SDLC) using either an Agile or a Waterfall methodology. Excellent collaborative team player and an outstanding communicator.

### CORE COMPETENCIES

- |                              |                                |                              |
|------------------------------|--------------------------------|------------------------------|
| ▪ Application Programming    | ▪ Software Analysis and Design | ▪ Application & Unit Testing |
| ▪ Object-Oriented Technology | ▪ Database Design/Development  | ▪ Documentation Review       |
| ▪ Working with Clients       | ▪ Web Design/Development       | ▪ Debugging/Troubleshooting  |

### PROFESSIONAL EXPERIENCE

#### Software Developer II ✦ Company Name ✦ City, State ✦ Jun 2012 – Present

- Developed front-end web UIs using REST with client-side validation and back-end management.
- Supported the Sales team by meeting with clients to discuss products and gather requirements.
- Collaborated with other teams to refine strategies to address technical and workflow issues.
- Created desktop applications in C# and Windows Presentation Foundation (WPF) to check for corruption in recovered files.
- Provided development tasks and time estimates to aid in scheduling, updating status to Project Managers and stakeholders.

#### Software Developer I ✦ Company Name ✦ City, State ✦ Jan 2009 – May 2012

- Developed SAS and SQL code to create financial reports, integrating data from multiple sources to display customer behavior, demographics, and lifecycle.
- Performed peer review troubleshooting and debugging of code and resolved issues, such as memory leaks.
- Translated established product requirements into code to implement solutions.
- Worked with technical writers to provide input and to review documentation.

#### Data Engineer ✦ Company Name (through ABC Contracting) ✦ Mar 2007 – Jan 2009

- Implemented forecasting models using SAS to formulate lead purchasing patterns and predict sales.
- Designed 10 dashboards and automated reports to measure vendors' key performance indicators (KPI).
- Worked cross-functionally in an Agile environment to deliver the product 35% earlier than projected.
- Performed risk analysis of data portfolios from across projects using Oracle 11g to preprocess banking data.

### EDUCATION

Bachelor of Science, Information Systems – School Name – City, ST

### TECHNICAL SKILLS

- |  |   |
|--|---|
| <b>PROGRAMMING /<br/>SCRIPTING LANGUAGES</b> | ▪ JQuery, Java, JavaScript, TSQL, C, C++, C#, Objective-C, VB Script, Perl, PHP, Python, Unix Shell Scripting, R, SAS |
| <b>DATABASES</b>                             | ▪ SQL, SQL Server, Oracle 11g   |
| <b>NETWORKING API</b>                        | ▪ REST  |
| <b>DEVELOPMENT SOFTWARE</b>                  | ▪ Win Form – WPF (.NET), Windows Communication Foundation (WCF)   |

### ADDITIONAL CREDENTIALS

- |                       |  |
|-----------------------|--|
| <b>CERTIFICATIONS</b> | <ul style="list-style-type: none"><li>▪ IEEE Certified Software Development Professional (CSDP)</li><li>▪ Software Development Associate Engineer Certification</li><li>▪ Software Quality and Maintenance Associate Engineer Certification</li><li>▪ Software Engineering Management Associate Engineer Certification</li></ul> |
| <b>ORGANIZATIONS</b>  | <ul style="list-style-type: none"><li>▪ IEEE Computer Society Technical Council on Software Engineering</li><li>▪ The IAENG Society of Software Engineering (ISSE)</li></ul>   |

## Grammar : Talking about past experiences

### 1. Preterit :

Affirmative	Negative	Question
Regular verb: Walked: I worked	He didn't work	Did he work?
Irregular verb: Say: She said	She didn't say	Didn't she say?

Make ten sentences in the past tense using the following verbs:

Manage	Create	Design	Perform	Develop
Make	Show	Sell	Broadcast	Take

- .....
- .....
- .....
- .....
- .....
- .....
- .....
- .....
- .....
- .....

### 2. Had EN ( past perfect)

Affirmative	Negative	Question
Regular verb: Walked: I had walked	He hadn't worked	had he worked?
Irregular verb: Say: She had said	She had not said	Hadn't she said?

Compare *present perfect* (**have seen** etc.) and *past perfect* (**had seen** etc.):

#### Present perfect



- ☐ Who is that woman? I **ve seen** her before, but I can't remember where.
- ☐ We aren't hungry. We **ve** just **had** lunch.
- ☐ The house is dirty. They **haven't cleaned** it for weeks.

#### Past perfect



- ☐ I wasn't sure who she was. I **d seen** her before, but I couldn't remember where.
- ☐ We weren't hungry. We **d** just **had** lunch.
- ☐ The house was dirty. They **hadn't cleaned** it for weeks.

Compare *past simple* (**left, was** etc.) and *past perfect* (**had left, had been** etc.):

#### Past simple

- ☐ A: Was Tom there when you arrived?  
B: Yes, but he **left** soon afterwards.
- ☐ Kate **wasn't** at home when I phoned.  
She **was** at her mother's house.

#### Past perfect

- ☐ A: Was Tom there when you arrived?  
B: No, he **d** already **left**.
- ☐ Kate **had** just **got** home when I phoned.  
She **d been** at her mother's house.

Read the situations and write sentences using the words in brackets.

1 When I came in there was a picture lying on the floor. (It / fall / off the wall)

.....

2 The people sitting next to you on the plane were nervous. It was their first flight. (They / not / fly / before)

.....

3 Last summer you went back to your home town after many years. It wasn't the same as before. (It / change / a lot)

.....

4 Last night at the pub somebody sang a song. You didn't know it. (I / not / hear / it / before)

.....

5 I invited Rachel to the party, but she couldn't come. (She / arrange / to do something else)

.....

6 You went to the cinema last night. You got to the cinema late. (The film / already / start)

.....

7 Last year we went to Mexico. It was our first time there. (We / not / be / there / before)

.....

8 I met Daniel last week. It was good to see him again after such a long time. (I / not / see / him for five years)

.....

9 I offered my friends something to eat, but they weren't hungry. (They / just / have / lunch)

.....

10 Sam played tennis yesterday. He wasn't very good at it because it was his first game ever. (He / never / play / before)

.....

Now it's your turn to write your résumé in order to apply for one of the following jobs. Here are the job adverts. Tailor your CV so that it fits perfectly for this position and make it attractive enough to get the job you chose.

## 1. Systems Test Engineer

Name of the company : Advanced Acoustic Concepts, LLC,

**Position Summary:** The Systems Test Engineer I will be involved with the analysis, design, development and implementation of new and/or existing systems/sub-systems. May include Architectural Design, Requirements Engineering, or others. Support and participate in technical activity. Design, develop, analyze, document and support testing of products, systems, or subsystems.

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### Duties and Responsibilities:

- Responsible for technical activity and completion of assigned task on time and budget
- Involved with the analysis, design, development and implementation of new and/or existing systems/sub-systems
- May include Architectural Design, Requirements Engineering, or others
- Determine system specifications
- Support acquisition of hardware and software (or subcontractor services as needed)
- Involved with the design and development of test programs to measure the functionality and integrity of products and services
- Write test procedures and protocols to assess product reliability and evaluates the ability of products to meet performance standards and specifications
- Debug test hardware and software

## 2. Video Engineer

Name of the recruiting officers : Matt Mirro and Breanne O'neill

### Job Description

The Video Engineer will be responsible for managing the broadcast on site during games. This will include updating the on-screen graphics, handling in-game advertisements, and troubleshooting when necessary. The Video Engineer will make sure all of the elements of the broadcast are smoothly pieced together while working with announcers and camera person as well as the location's staff.

### Job Requirements

Candidates must be able to work in a team environment and have reliable transportation. Nights and weekends will be required. Preferred Qualification: Experience in an online multimedia environment; preferably sports-oriented.

### 3. It support Engineer

Name of the company : Devoted Health

#### Job Description

A bit about this role:

Our Support Engineers dig into nearly every aspect of technical life at Devoted. You will make sure our computers and software never stand between Devoted staff and get the job done. You will be front line tech support for problems large and small, will troubleshoot systems, manage accounts and users, keep our member data safe, and deploy new tools. You will improve the tech lives of all types of users, from health care domain experts to tech-savvy software engineers.

#### Responsibilities:

- Provide friendly telephone, remote & on-site troubleshooting, training and technical support to end users
- Troubleshooting a user's access to a Google Doc, or figuring out why they can't print it
- Setting up and configuring Google Chromebooks & Macs, printers, peripherals & local network equipment
- Manage the technical onboarding for new employees, improving the process as we add dozens of new hires in the coming months
- Integrate SSO into new cloud platforms
- Handling technical requests such as password resets, drive mapping and user accounts setup
- Packaging and shipping hardware to remote employees to enable our WFH team.
- Be the go to person for advanced troubleshooting needs

## Writing your cover letter

Match the following words with their definition:

an insight / hands-on / expertise / to reinforce / sole / invaluable

	extremely useful
	to make stronger
	practical, that involves doing rather than just reading or learning about something
	not shared with anyone else
	high level of knowledge or skill
	a clear, deep understanding of a difficult problem or situation

Use the words now to fill in the following sentences :

My main strength is that I am able to analyze every situation with remarkable .....

I've been in this job for 30 years so I can pride myself on having ..... in this field.

My past experiences during my different internships only ..... my desire to work for your company.



My ..... objective for the next few years is to give my best.

I've always been very ..... when it comes to running the restaurant.

This new job will provide me with ..... experience.

## Useful phrasal verbs

Match the verbs with their meaning:

Act on / Act upon / Answer to / Back up / Be cut out for / Be snowed under / Bring around / Bring off / Bring forth / Bring down

Take action on the basis of information received or deduced	
Bring something with you when you visit.	
Act decisively on the basis of information received or deduced	
Succeed in doing something considered to be very difficult	
Have too much work	
Justify oneself to (someone)	
Create, generate, bring into existence	
Provide support or the promise of support	
Reduce	
Be suitable, have the necessary qualities	

## Listening

Watch the vidéo and answer the following questions :

1. What's the purpose of the cover letter?
2. What is a header?
3. What is the attention getter and what should you write in it?
4. How can you avoid sounding formulaic?
5. What should the middle paragraph contain?
6. Why should you avoid to repeat the bullet points in your CV?

## Top Tips for writing

1. Begin and end the letter appropriately.
  - Beginning: Dear Sir or Madam with no name – Closing: Yours faithfully
  - Beginning: Dear Mr / Mrs / Ms + surname – Closing: Yours sincerely
2. Give a clear reason for writing.
  - I am writing with regard to ... / to enquire about ... / to apply for ... / to express interest in ...
3. Use linking words to join similar ideas into paragraphs.
4. Include a summary comment near the end of your letter.
  - I hope you will find this information useful.
  - I would be very grateful for your assistance in this matter.
5. Close your letter with a set phrase.
  - I look forward to hearing from you.

Here is a cover letter, read it and try to analyze the different mistakes this candidate made.

Dear Sir/Madam,

Hello! Please find my resume attached in response to the Management Associate position posted on your website. As you probably saw, I'm Brandon. Why did I sign up for this position? Well, I'm going to cut to the chase here: I think I'm born to be a Management Associate after reading the requirements in your advertisement.

To give you a snapshot of who I am: I'm relaxed, I'm friendly, and I'm SUPERB at working with people! In fact, my friends often tell me I'm "a people person"! LOL. But there are a few things the resume doesn't show, and I think they are very important for you to know as well.

I have the drive to excel in this position and I put 110% effort into all that I do. I am skilled at project management, marketing, and working under intense deadlines. I work great in a team and I am comfortable working independently as well. My FYP supervisor had commended me on my research skills too. I have outstanding organisational skills and am dynamically trained in Microsoft Office programmes. My professionally-relevant hobbies include photography and web development. I have lived in various countries and it gives me a unique perspective that I bring to my work. It also may be of interest to you that I was the Hall King of XYZ Hall in 2019 — yup, I'm a looker!

In short, if you are looking to have a smart, creative, good-looking, and detail-oriented genius in your team, I am your guy.

I would love to share with you how my skills and ideas can benefit your company in an interview with yourself or the director.

Thanks for your consideration; I look forward to hearing from you soon!

Sincerely, Brandon

P.S. I only apply to companys that I'm highly interested in.

Now rewrite his cover letter in a more formal and acceptable manner.

Finally, using the vocabularies and the tips, write the cover letter which goes along with your CV.



## Getting ready for the interview

### Listening

Listen to the CEO of the company.

Write down words or sentences you understand.

--

Second listening, try to add more words and link the words that goes together.

Pairwork :

With your neighbour, share your notes and classify the different information into categories of your choosing.

--	--	--	--	--

Third listening, check what you picked out and correct yourselves.

Now use your notes to answer the following questions :

1. What seems to be the main problem?
2. What happened to Brian and why?
3. What skills, experience and degree the future candidates need to possess to apply for this position ?

Reading :

Read the following text.

**First reading, Highlight basics information you can understand**

Marcia: Hi, I'm Marcia Boardman. I'm calling from WebWare.

Sarah: Oh, hi, Marcia. Great to hear from you.

Marcia: You'll have already been told you've been shortlisted for interview ...

Sarah: Oh, yes, great ...

Marcia: Yes ... Is it OK if I call you now? Would you like me to call you back later?

Sarah: Erm, no, no, no, that's OK.

Marcia: Good. Well, we're very excited about meeting you. OK, I just want to talk you through the procedure for the day. Someone will meet you when you arrive, reimburse you for any travel expenses you may have, and then bring you up to meet myself and Philip Hart, the CEO.

Sarah: OK, sounds good. So, will you be the only members of the interview panel there, then?

Marcia: Yes, it'll be just me and Philip who will talk to you. The interview will be in three parts. First of all we'll ask you some general questions about yourself and your educational and professional background, then we'll move on to specifics.

Sarah: Oh, er, specifics? Erm, well, er, what kind of questions will you be asking?

Marcia: Well, it'll be very similar to the personal statement you submitted with your CV. We'll be expecting you to give actual examples of problems you've faced and solved, and of what you feel are your major successes in your career so far.

Sarah: OK, well, yeah, that sounds great. Can't wait!

Marcia: Then there'll be a chance for you to ask us any questions about the job itself or WebWare in general.

Sarah: Oh, erm, OK. I'll think of something!

Marcia: After that, we'd like you to give a short presentation on how you see WebWare as a company progressing, and how you see yourself taking us there.

Sarah: OK, so will I be expected to give, like, a formal-style presentation?

Marcia: It can be as formal or as informal as you like. There'll be a flip chart and a data projector there available. If you need anything else, just let us know. We'll be seeing you at 1 p.m., a week tomorrow. Best of luck!

Sarah: Oh, thanks. I'll need it!

**Pair work: compare what you highlighted and class them into categories of your choosing.**

**Sum up what you think you understood.**

Use the text to match the vocabulary with the corresponding definition

Vocabulary	Definitions
1. .... an interview panel	a. a series of steps that you follow in order to do something
2. .... a personal statement	b. to pay back money to somebody who spent it for an official or approved reason
3. .... a procedure	c. the costs of going somewhere for work, including food, accommodation and transport
4. .... a presentation	d. a group of people who ask you questions during an interview
5. .... to reimburse	e. a short statement required for some job applications in which you introduce yourself and explain your interest in the job
6. .... a flip chart	f. a formal talk in which you explain a topic or an idea to an audience
7. .... a data projector	g. a very large pad of paper on which you can write, draw or show information to an audience
8. .... travel expenses	h. a projector that connects to a computer, so that you can show your computer screen on a large screen

Write a number (1–6) to put the stages of the interview process in order.

- \_\_\_\_\_ Refund of the costs of getting to the interview
- \_\_\_\_\_ Short talk on the company's future
- \_\_\_\_\_ Arrival and meeting
- \_\_\_\_\_ Specific questions about problems and successes at work
- \_\_\_\_\_ General questions about education and work history
- \_\_\_\_\_ Questions to Philip and Marcia about the job or company

Pair work : With your neighbours, ask and answer questions about yourself or you can invent. Be careful ! You need to be CONVINCING.

Student A : Go to annexe. **Doc pair work speaking 1**

Student B : Go to annexe. **Doc pair work speaking 2**

### **DRAMA TIME :**

Use the information we found in the text to write the scene of the interview.

You need to respect the different stages of the interview. The CEO and the Recruiting officer need to ask questions and offer the chance to the candidate to ask question about the company.

The scene will be played in front of the class.

Enjoy and have fun.



# The future of Driving?





Speaking:

Here is a problem we are facing everyday. Can you try to think about possible solutions ?

- A recent study states that 90% of car accident take place because of a human mistake, most of the time due to the consumption of alcohol or drugs, and even due to aging. Pedestrians as well a cyclists are often injured or killed because of car crashes.


Discuss the pros and cons of the following inovations :

Reading: Look at this advertising flyer.

# Self-driving cars and transportation

## POLLUTION

Driverless cars could reduce CO<sub>2</sub> emissions by

**£300 MILLION**

tons per year

**= 40 %** of the all CO<sub>2</sub> produced by flights



## INTERNET OF THINGS (IoT)

IoT will allow "the road" to communicate with the vehicle as it moves and will help to find a parking slot

## VIDEO

Video cameras detect traffic lights, read road signs and keep track of other vehicles while looking out for pedestrians and obstacles

## SMART SIGNALS

Smart traffic signs and signals will communicate traffic regulators and directions to the vehicle



**Driverless cars are the future**

**€39 BILLION**

The global driverless car market will reach

New business models could expand automotive revenue pools by about **30 %**



**35 MILLION** "smart trucks" will be connected globally by 2020



Suppliers are racing into the market, with thousands of chip makers, sensor startups, software firms, and laser scanning providers now working in the industry

## ELECTRIC BATTERY

**90 %** of senior executives polled expect battery electric vehicles to dominate the marketplace by 2025



## SAFETY

About **90 %** of traffic accidents are due to human failure

**AUTONOMOUS BRAKES** Will reduce the risk of car crashes by 14%

About **90 %**

Over **81 %**

of all traffic accidents can be avoided by using vehicle communication systems that share traffic information with one another

1. Identify the name of the innovation :
2. What are the different problems this solution seems to be solving :


How do self-driving car work?

Listening: Listen to the document.

Pick out words or sentences you can hear.

--

Listen again and try to complete your list. Don't hesitate to highlight important words, link words that go together etc...

IN PAIRS. Share your findings. Class the words you heard into different categories of your choosing.


Now in pairs, using your notes only sum up what you learnt in the video about the cars.

Now answer the following questions :

1. What is the synonym for danger used in the video?
2. How are the eyes of the car called?
3. How fast does the detection of obstacle have to be?
4. What is Lidar?
5. What is the ancestor of Lidar?
6. What is the difference between Lidar and Radar?
7. True or False, the lazer shoots only one beam.
8. What is integrated photonics?
9. What is used instead of switching on and off the lazer?



10. What needs to be added to make the car see better?

Writing:

You are the spokesman for a company proving self-driving taxi services to people. You need to convince people that, when compared to other propositions, a self-driving car is the best solution for the future of driving. You need to be enthusiastic about this innovation and you have to give some details on how they work to ensure you know what you are talking about.

Speaking:

In pairs, discuss the possible drawbacks of using self-driving cars:

--

Listening: Listen to the newsreport.

Pick out words or sentences you can hear.

--

Try to class the information into different categories of your choosing.

IN PAIRS:

- Student A: goes to the annexe (listening interview 1)
- Student B stays on this page to read his note in order to answer student's A questions.

Then you switch.

- Student A stays on this page to use his/her note to answer student B's questions.
- Student B goes to the annexe (listening interview 2 )

Reading:

Extract of an article from Forbes website

<https://www.forbes.com/sites/jamesmorris/2021/02/13/self-driving-cars-wont-go-mainstream-until-we-solve-this-problem/>

## Self-Driving Cars Won't Go Mainstream Until We Solve This Problem

Autonomous vehicles have come a long way since none of the entrants of the 2004 DARPA Grand Challenge managed to even finish the course. Now there are numerous trials on public roads and Tesla has released a beta of its Full Self Driving into the wild with selected car owners. But there's a major problem that needs to be addressed before we can let our cars do all the driving for us, and it's not a technical one. It's ethical.

The problem goes like this. Imagine an autonomous vehicle discovers a pedestrian in its path and is travelling too fast to stop safely. It has two choices. Either it can try to stop but will probably run over and kill the pedestrian. Or it can swerve away from the pedestrian but will probably hit a barrier that will hurt or kill the occupant. Which does it choose?

This sounds like a simple choice, but the closer you look, the more nuances appear. What if the pedestrian is a mother and child? What if the car is full of children? What if hard braking is likely to mean the car behind has an accident too? In other words, your self-driving car will have to calculate the least harm to human life and that might mean it decides the least harm would be to kill its occupants.

We make these decisions naturally as human drivers. A dog runs into the road. We brake and try to avoid the animal, but most of us would choose to kill the dog rather than harm ourselves and our car occupants. We would try to miss the dog, but not at the expense of our own life. If it's a child in the road, we'd probably be more likely to allow injury to ourselves to prevent or reduce injury to the child. But we still wouldn't swerve into the path of an oncoming vehicle to do so.

The question is not just about the least amount of injury, though. In the event of an accident, who is responsible? If the pedestrian has been jaywalking, perhaps it's their fault, and they deserve to be injured more than the car occupants. But if the autonomous driving system has decided who to hurt and who to harm, is it the fault of the driver, the manufacturer of the car, or the company that programmed the autonomous driving software?

A/ Read the article and highlight elements that seems important to you. (Do not highlight full sentences just keywords)

B/ Organise the keywords into different categories.


C/ Share your notes with your neighbour.

Speaking : Using your notes, sum up what this ethical problem is about. (NO WRITING ALLOWED)

Grammar: Conditional

Type of conditional	How to make it
<b><u>Zero conditional</u></b> <b>If</b> a car encounters an obstacle, it stops. <b>If</b> you want to drive, don't use these cars.	Two propositions and the first one starting with [if]. <b>If + present simple , present simple</b>
<b><u>First conditional</u></b> <b>If</b> the weather is good, the car will drive you perfectly. <b>When</b> you order the car only, it will come within minutes. <b>Unless</b> there is a sudden obstacle, the car will arrive safely. <b>Provided that</b> you leave the car drive, nothing bad will happen.	Two propositions and the first one starting with [if] or [when] or [unless] or [should] or [in case] etc... <b>If + present simple, Will + verb</b>
<b><u>Second conditional</u></b> <b>If</b> there was these cars in France, I would not use them. <b>If</b> my car could drive on its own, It would be so great. <b>If</b> we had self-driving cars in France, it could be dangerous. <b>If</b> I needed to take a car, it might be a good alternative to taxis.	Two propositions and the first one starting with [if]. <b>If + past perfect, would + verb</b>

Use the following verbs to make sentences using the conditional.

Drive / order/ crash / use / detect / stop / speed up / slow down / park / invest

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....
7. ....
8. ....
9. ....

10. ....

Complete the following sentences.

If I had a car like this, .....

If somebody asks me to ride a self-driving car, .....

When cars drive on their own, .....

....., you can tour a whole city by yourself.

....., David will not be happy.

....., I will sue the company.

Reading: Autonomous vehicles are vulnerable to hacking

The website HackerNoon discusses the cybersecurity risks in autonomous vehicles, as well as the various ways cybercriminals might remotely attack a self-driving car. They note that technology continues advancing, allowing these types of vehicles to require less human intervention. Still, that same technology also allows hackers to take advantage, for criminal purposes or simply for fun. Regardless of the reason, a hacked vehicle is extremely dangerous.

HackerNoon:

There are intentional attacks that aim to specifically harm the safety-critical functions of the AI [artificial intelligence] systems. Examples include painting the road to misguide the navigation system or putting stickers on stop signs to prevent it from being recognized. Such alterations can lead the AI systems to wrongly classify objects which as a result could make the self-driving car behave in a dangerous way.

Behaving in a “dangerous way” is a bit of an understatement. Forcing a vehicle to run a stop sign or miss navigation cues will almost certainly cause a car accident, and serious crashes, resulting in catastrophic injuries for everyone involved.

#### Techniques to hack driverless cars

HackerNoon doesn’t just speak in general terms about cybersecurity risks; they discuss the specific ways hackers can gain control of autonomous cars, including:

- Remote access via the Internet
- Remote access via Bluetooth
- Inserting a backdoor into the self-driving car via the maker of the vehicle (supply chain)
- Planting a specialized device into the vehicle
- Messing with the sensory of the vehicle.

They also discussed some real-world examples of car hacks, including a 2019 attack on a Tesla Model 3. White hat hackers Amat Cama and Richard Zhu exploited the car’s system to take control of the vehicle in a controlled environment. A “white hat hacker” ethically uses their skills to demonstrate vulnerabilities in software and hardware. It took Cama and Zhu only minutes to take control of the Tesla, using a weakness in the car’s infotainment system to run their line of code. You can watch the entire demonstration on YouTube.

A/ Read the text.

B/ Highlight what you think is important.

C/ Follow the instructions.

1. Identify the source of the document and the source quoted by the online article.
2. Sum up in a few words what is the main focus of the article.
3. What are the different type of attacks mentioned.
4. Sum up what a White hat hacker is.
5. Identify the reason why they attack.
6. In a few words what are the possible ways of hacking a self-driving car.
7. Using the text, match the words with their definitions:

	a sentence that makes something seem less important than it really is.
	programmes that present news and serious subjects in a way that entertains.
	to do things in a particular way.
	away from the place using communications technology.
	Synonym for weakness.
	paying no attention, even if the situation is bad or there are difficulties.

Oral challenge:

With only your notes and hiding the text, sum up the article give as many details as you can.

Useful phrasal verbs:

Match the following verbs with their definition:

Cut Back / Cut down / Cut off / Fall apart / Fall behind / Get ahead / Get along / Give way / Give in /  
Go along

	Relent, yield, surrender or admit defeat
	Reduce the amount of something
	Interact or coexist well, without argument or trouble
	Offer something
	Reduce spending and consumption
	Progress
	Participate or cooperate
	Be progressively below average in performance or be late
	Disintegrate
	Stop providing funds to someone or end abruptly

Writing :

The CEO of a taxi company wants to change his whole car fleet. He wants to know your opinion about his fleet going full autonomous.

You need to discuss with him the pros and cons of self-driving cars using all the information you learnt during this course.

The dialogue must be about 200 words long.

# Annexe

## **Doc pair work speaking 1**

Imagine you are the Hr Manager of a company and you welcome a candidate for a job interview. Here are 10 questions to ask the candidate.

1. Tell me about yourself.
2. Why do you want this job?
3. What are your greatest strengths?
4. Tell me about a time you demonstrated leadership skills.
5. What do you like to do outside of work?
6. What motivates you?
7. What makes you unique?
8. What would your first few months look like in this role?
9. What are your career aspirations?
10. How do you like to be managed?

## **listening interview 1**

1. What is the name of the company?
2. Where is the newsreport taking place?
3. How many self-driving cars are there on the road?
4. Which group owns the company the journalist is using?
5. What is its main competitor?
6. In how many crashes have the cars been involved ?
7. What seems to be problematic for these cars?
8. How was the first ride with cruise?
9. When the car stopped during the second ride, what did cruise say?
10. What did the incident caused?

## **Doc pair work speaking 2**

It is your turn to be the Hr Manager of a company and you welcome a candidate for a job interview. Here are 10 questions to ask the candidate.

1. How did you hear about this position?
2. Why should we hire you?
3. What do you consider to be your weaknesses?
4. What is your greatest professional achievement?
5. Tell me about a challenge you've faced at work, and how you dealt with it.
6. Tell me about a time you made a mistake.
7. What type of work environment do you prefer?
8. How would your boss and coworkers describe you?
9. What are you passionate about?
10. Are you willing to relocate?

## **listening interview 2**

1. How did the journalist order a taxi?
2. What is the channel on which the newsreport is broadcasted?
3. Are all the self-driving cars without anyone on the drivers' seat?
4. What is the name of the company the journalist is using?
5. What happens after you enter your destination on the app?
6. What can these vehicles detect?
7. How many injuries were caused by the cars?
8. What are the benefits according to cruise?
9. What happened during the second ride with cruise?
10. What did the driving instructor say about the car?



# Irregular verbs

[illegible]