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A Self-study Grammar Book for Engineers

Sònia Oliver del Olmo
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En col·laboració amb el Servei de Llengües i Terminologia de la UPC

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To Josep and Lasse

Índex

PREFACE	7
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GRAMMAR UNITS

1. Present simple	9
Present simple key	11
2. Present continuous	12
Present continuous key	14
3. Simple past	15
Simple past key	17
4. Present perfect and Past perfect	18
Present perfect and Past perfect key	20
5. Past continuous	21
Past continuous key	23
6. Gerunds in science	24
Gerunds in science key	26
7. Imperatives	27
Imperatives key	29
8. Making questions	30
Making questions	32
9. Question words	33
Question words key	35
10. Modal verbs	36
Modal verbs key	38
11. Future	39
Future key	41
12. Conditionals	42
Conditionals key	44
13. Relative clauses and pronouns	45
Relative clauses and pronouns key	47
14. Question tags	48
Question tags key	50
15. The passive	51
The passive key	53
16. The article	54
The article key	57
17. Pronouns	58
Pronouns key	60
18. Plurals	61
Plurals key	64
19. Prefixes and suffixes	65
Prefixes and suffixes key	67
20. Compound nouns	68
Compound nouns key	70

21. Quantifiers	71
Quantifiers key	75
22. Comparative and superlative	76
Comparative and superlative key	79
23. Comparison and contrast	80
Comparison and contrast key	82
24. Prepositions	83
Prepositions key	87
25. Adverbs	88
Adverbs key	91
26. The English sentence order	92
The English sentence order key	94
27. Basic errors	95
Basic errors key	97
28. Business headings	98
29. Business letters	99
30. Curriculum vitae	104
31. The scientific report	107

ENGLISH FOR SPECIFIC PURPOSES

1. Accounting and banking	112
2. At work	116
3. Business and trade	119
4. Electrical appliances	123
5. Engineering specialities	125
6. Materials	127
7. The Media	129
8. Office Material	131
9. Production and manufacturing	134
10. The car	138
11. Tools	140
12. Transports	143
13. Construction	145

EXTRA VOCABULARY UNITS

14. American -British English Glossary	148
15. American- British English spelling differences	153
16. False Friends	154
17. Friends	156
18. Phrasal verbs	158
19. Opposites	162

APPENDICES

1. Conjunctions	164
2. Abbreviations	165
3. Calculating	167
4. Capitalization	169
5. Irregular verbs	170
6. Make and do	173
7. Measures	176
8. Punctuation.....	178
9. Timeline	181
10. Verb tenses in English.....	182
11. English word order	183
12. Internet addresses	184

BIBLIOGRAPHY

PREFACE

A Self-Study Grammar book for Engineers és un projecte que sorgeix de la necessitat real de millorar el nivell d'anglès de l'alumnat universitari actual i d'adquirir un vocabulari bàsic però específic en cada camp, sobretot en les carreres tècniques.

Vam veure que seria molt útil recollir i sintetitzar tota la informació que l'alumne necessitava en una sèrie d'unitats gramaticals puntuals, amb exercicis complementaris adjunts i les solucions respectives per tal de motivar l'autoaprenentatge i l'auto avaluació tal com suggereix el *European Portfolio* per a l'aprenentatge de llengües estrangeres.

A més, tenint en compte l'obligatorietat del domini d'una tercera llengua dins l'àmbit universitari català i pensant tant en els alumnes autòctons com en els estrangers d'intercanvi (Erasmus, etc.), hem inclòs exemples tant en català com en castellà en les nostres explicacions per unitats. Els exercicis s'han pensat per posar en pràctica determinats aspectes de la llengua anglesa dins un context específic, i el fet de disposar de les claus permet a l'alumne prioritzar les unitats que ha d'estudiar segons la necessitat personal de cada moment.

D'altra banda, el llibre proporciona un glossari específic de temes relacionats amb els àmbits de l'enginyeria, el comerç, la banca, etc., que és molt útil com a referència i com a base sòlida de vocabulari per a fins específics, i conté la traducció bilingüe (català-castellà). Dins l'appendix, hem inclòs taules de conversió, verbs irregulars, *phrasal verbs*, etc.

Per últim, al final del llibre s'indiquen una sèrie de webs i enllaços recomanables per a l'aprenentatge de l'anglès com a llengua estrangera i s'especifica la bibliografia bàsica utilitzada. Creiem que és un llibre compacte, sintètic, pràctic i entenedor, molt útil per a tots els estudiants universitaris i, d'una manera especial, per als de ciències.

Sònia Oliver del Olmo i Mònica Soler Lorente

Barcelona Març 2003

1. PRESENT SIMPLE

The English present simple tense is used in Science so as to describe regular actions and processes, general issues and factual statements including observations. It is not used while describing experiments.

USE	EXAMPLES
<p>1. <u>REGULAR ACTIONS AND PROCESSES:</u> (Often with an adverb of frequency or a frequency expression)</p>	<p>E. Our scientists work 40 hours a week. C. Els nostres científics treballen 40 hores per setmana. S. Nuestros científicos trabajan 40 horas a la semana.</p>
<p>2. <u>GENERAL STATEMENTS:</u> (To express a fact which is always true)</p>	<p>E. Water boils at 100°C. C. L'aigua bull a 100°C. S. El agua hierve a 100°C.</p>
<p>3. <u>FACTUAL STATEMENTS AND OBSERVATIONS:</u> (To describe facts and situations that we see as permanent)</p>	<p>E. The liquid in the test tube weights 9 g. C. El líquid que hi ha dins el tub d'assaig pesa 9 g. S. El líquido que está dentro del tubo de ensayo pesa 9g.</p>
<p>4. <u>DESCRIPTION OF EXPERIMENTS:</u> (Commonly used to describe present research and discoveries)</p>	<p>E. The filter paper then collects the impurities. C. Aleshores, el paper de filtre recull les impureses. S. Entonces, el papel de filtro recoge las impurezas.</p>

PRESENT SIMPLE EXERCISES

EXERCISE 1. Give the correct present simple form of the verb in parentheses.

1. The UPC (hold) a seminar in Electronics once a year.
2. Many people (study) abroad thanks to Erasmus exchanges.
3. Mr. Walker (teach) Mathematics in the Engineering faculty.
4. Mandy (carry out) some research in Robotics regularly.
5. Some experiments (cost) a lot of money.
6. The sun always (rise) on the east.
7. When we heat metals they (melt).
8. Water and oil (not mix) when put together.
9. Some materials (be) very heavy to carry out.
10. This substance, when mixed with water, (cause) a chemical reaction.
11. The silicon rods used in the experiment (not weight) more than 10g.
12. The sparkplug then (make) the ignition possible.
13. Good scientific reports (provide) useful data for future research.
14. While heated glass (become) very brittle.
15. Gold and silver (be) precious metals.

EXERCISE 2. Correct the mistakes in the following present simple sentences.

1. I studi English three times a week.
2. They always attends the annual meeting.
3. Good Engineering students has a great future in business.
4. Knowledge are as important as professional experience.
5. Doesn't touch that metal plate! You can hurt yourself.
6. Most managers don't likes working at the weekend.
7. Precious metals don't are always very expensive.
8. Heat cause steam.
9. A specific team place nuclear waste in safe containers.
10. Acid rain kill forests.

EXERCISE 3. Put the following sentences in order.

1. The plane first at leaves 6 a.m.
2. Reinforced is useful very in cases many glass.
3. The is round earth.
4. Moon the goes around the earth.
5. An earthquake can damage provoke serious.

PRESENT SIMPLE KEY**EXERCISE 1. Give the correct present simple form of the verb in parentheses.**

1. The UPC **holds** a seminar in Electronics once a year.
2. Many people **study** abroad thanks to Erasmus exchanges.
3. Mr. Walker **teaches** Mathematics in the Engineering faculty.
4. Mandy **carries out** some research in Robotics regularly.
5. Some experiments **cost** a lot of money.
6. The sun always **rises** on the east.
7. When we heat metals they **melt**.
8. Water and oil **don't mix** when put together.
9. Some materials **are** very heavy to carry out.
10. This substance, when mixed with water, **cause** a chemical reaction.
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13. Good scientific reports **provide** useful data for future research.
14. While heated glass **becomes** very brittle.
15. Gold and silver **are** precious metals.

EXERCISE 2. Correct the mistakes in the following present simple sentences.

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5. **Don't** touch that metal plate! You can hurt yourself.
6. Most managers don't **like** working at the weekend.
7. Precious metals **aren't** always very expensive.
8. Heat **causes** steam.
9. A specific team **places** nuclear waste in safe containers.
10. Acid rain **kills** forests.

EXERCISE 3. Put the following sentences in order.

1. The first plane leaves at 6 a.m.
2. Reinforced glass is very useful in many cases.
3. The earth is round.
4. The moon goes around the earth.
5. An earthquake can provoke serious damage.

2. PRESENT CONTINUOUS

The present continuous tense in English is formed by adding a verb in gerund to the verb to be in the present simple tense.

USE	EXAMPLE
1. For actions happening now .	E. What are you doing here? C. Què estàs fent aquí? S. ¿Qué estás haciendo aquí?
2. For activities happening around now , but perhaps not at the moment of speaking.	E. I'm working on a project at the moment. C. Estic treballant en un projecte en aquest moment. S. Estoy trabajando en un proyecto en este momento.
3. To express a temporary activity .	E. Erik is a student, but he's working as a barman during the holidays. C. L'Erik és estudiant, però està treballant com a bàrman durant les vacances. S. Erik es estudiante pero está trabajando como barman durante las vacaciones.
4. To express planned future arrangements (usually together with time expressions, such as tonight, tomorrow...)	E. I'm visiting a customer tomorrow. C. Demà visitaré un client. S. Mañana visitaré un cliente.

SPELLING OF -ING FORMS

most verbs:	Work- working , read- reading ,
verbs ending in -e:	Make- making , write- writing ...
short verbs ending in one vowel + one consonant:	Stop- stopping , sit- sitting , run- running ...
verbs ending in -ie:	Lie- lying , die- dying , tie- tying ...

PRESENT CONTINUOUS EXERCISES

EXERCISE 1. Write in the –ing form of the following verbs:

INFINITIVE	GERUND
read	
swim	
come	
think	
wait	
rain	
wear	
shine	
smoke	
have	
take	
get	
stop	
run	
begin	

EXERCISE 2. Write the negative form of the following sentences.

1. Some Industrial Engineers are working hard for Forum 2003.
2. My boss is giving a lecture now.
3. Mandy is checking some balance sheets these days.
4. Mr. Kennedy is inspecting the goods in the factory floor.
5. Most employees are enjoying their holidays by now.

EXERCISE 3. Correct the mistakes in the following sentences.

1. David and Terry are studing very hard for the exam.
2. The Sullivan's is moving their stuff somewhere else.
3. Mary is carring a box of tools.
4. Peter and Rob are lieing on the sofa.
5. When are your team plaing again?
6. Most engineers are aplying for a scholarship to study abroad.
7. Some workers is paking items in the packaging department.
8. Our management are thinking about giving us a pay rise.

PRESENT CONTINUOUS KEY**EXERCISE 1. Write in the –ing form of the following verbs:**

INFINITIVE	GERUND
read	Reading
swim	Swimming
come	Comino
think	Thinking
wait	Waiting
rain	Raining
wear	Wearing
shine	Shining
smoke	Smoking
have	Having
take	Taking
get	Getting
stop	Stopping
run	Running
begin	Beginning

EXERCISE 2. Write the negative form of the following sentences.

1. Some Industrial Engineers are **not** working hard for Forum 2003.
2. My boss is **not** giving a lecture now.
3. Mandy is **not** checking some balance sheets these days.
4. Mr. Kennedy is **not** inspecting the goods in the factory floor.
5. Most employees are **not** enjoying their holidays by now.

EXERCISE 3. Correct the mistakes in the following sentences.

1. David and Terry are study**ing** very hard for the exam.
2. The Sullivan's **are** moving their stuff somewhere else.
3. Mary is carry**ing** a box of tools.
4. Peter and Rob are ly**ing** on the sofa.
5. When **is** your team play**ing** again?
6. Most engineers are apply**ing** for a scholarship to study abroad.
7. Some workers **are** pack**ing** items in the packaging department.
8. Our management **is** think**ing** about giving us a pay rise.

3. SIMPLE PAST

The simple past tense in English is used to talk about activities that began and ended in the past. The past means anytime before right now (e.g. something that began and ended 5 minutes ago it should be expressed in the past tense). In Science, the simple past tense is commonly used to describe past research and discoveries and it is usually found in the background section of a research report.

TO BE	REGULAR VERBS	IRREGULAR VERBS
I was	Most verbs just add –ed:	2nd column is used:
You were	Work – worked	Break - broke - broken
He was		
She was	But after –e, we add –d:	Tom broke a glass.
It was	Like – liked	Tom didn't break it.
We were		Did Tom break it?
You were	Vowel (a,e,o)+y = -yed:	
They were	Play – placed	
Sue was in China in 1996.	Consonant +y = -ied:	
Sue wasn't in China ...	Reply – replied	
Was Sue in China ... ?		
	1 vowel +1 consonant = 2	
Was not = wasn't Were not = weren't	(only in stressed syllables!): See: stop – stopped But: wonder - wondered	Did not = didn't

EXAMPLES:

VERB TYPE	ENGLISH	CATALAN	SPANISH
TO BE:	They were tired.	Estaven cansats.	Estaban cansados.
REGULAR:	Tim played golf yesterday.	En Tim va jugar a golf ahir.	Tim jugó a golf ayer.
IRREGULAR:	John ran a mile on Friday.	En Joan va córrer una milla el divendres.	Juan corrió una milla el viernes.

SIMPLE PAST EXERCISES

EXERCISE 1. Write the simple past tense of the following verbs:

INFINITIVE	SIMPLE PAST
arrive	
rain	
watch	
carry	
pass	
live	
study	
rob	
fit	
slip	
develop	
regret	
annoy	
shop	
stay	
shave	
turn	
leave	
hold	
think	
answer	
stand	

EXERCISE 2. Underline the correct form.

1. I break / broke a cup last night.
2. Ann did not play / played hockey on Saturday.
3. I didn't feel / felt very well a week ago.
4. The train didn't arrive / arrived on time.
5. Mary didn't like / likes her last job.

EXERCISE 3. Make the following sentences interrogative.

1. My boss went to Berlin last week.
2. Our prototypes were sold within a month.
3. Some of the old tests were too difficult.
4. My lawyer wrote a long report about the matter.
5. Mr. Collins was a famous scientist.

SIMPLE PAST KEY

EXERCISE 1. Write the simple past tense of the following verbs:

INFINITIVE	SIMPLE PAST
arrive	arrived
rain	rained
watch	watched
carry	carried
pass	passed
live	lived
study	studied
rob	robbed
fit	fitted
slip	slipped
develop	developed
regret	regretted
annoy	annoyed
shop	shopped
stay	stayed
shave	shaved
turn	turned
leave	left
hold	held
think	thought
answer	answered
stand	stood

EXERCISE 2. Underline the correct form.

1. I break / **broke** a cup last night.
2. Ann **did not play** / played hockey on Saturday.
3. I **didn't feel** / felt very well a week ago.
4. The train **didn't arrive** / arrived on time.
5. Mary **didn't like** / likes her last job.

EXERCISE 3. Make the following sentences interrogative.

1. **Did** my boss **go** to Berlin last week?
2. **Were** our prototypes **sold** within a month?
3. **Were** some of the old tests too difficult?
4. **Did** my lawyer **write** a long report about the matter?
5. **Was** Mr. Collins a famous scientist?

4. THE PRESENT PERFECT AND PAST PERFECT

THE PRESENT PERFECT

The present perfect simple is formed with the **auxiliary** verb **have** in the corresponding form for the subject of the sentence, followed by the **participle** of the **main** verb.

Example sentences:

E. Affirmative: **I've broken my pencil.**

C. Afirmativa: He trencat el llapis.

S. Afirmativa: He roto el lápiz.

E. Negative: **I haven't done my homework.**

C. Negativa: No he fet els deures.

S. Negativa: No he hecho los deberes.

E. Question: **Have you been at the university today?**

C. Pregunta: Has estat a la universitat avui?

S. Pregunta: ¿Has estado en la universidad hoy?

The most important thing to remember about the present perfect is that it can *never* be used with adverbs which describe finished time periods, such as **yesterday**, **five minutes ago** and **at three o'clock**. If a time adverb is used with the present perfect, it should describe a time period which is unfinished.

THE PAST PERFECT

The Past Perfect tense is formed of two parts: the past tense of the verb *to have* (*had*) + the past participle of the main verb.

The past perfect is referred to a time earlier than before now. It is used to show that one event happened before another in the past.

Example sentences:

E. **I had worked a lot before my grandmother arrived.**

S. Havia treballat molt abans que arribés la meva àvia.

C. Había trabajado mucho antes de que llegara mi abuela.

THE PRESENT PERFECT VERSUS PAST PERFECT

EXERCISE 1. Write the present perfect in the following blanks:

1. They.....(not fished) building the new social centre yet.
2. She.....(drive) her new car twice.
3. Our friends..... (work) with chromium for two days.
4. We.....(move) into our new house.
5. They.....(not seen) the new computer tools yet.

EXERCISE 2. Fill in the blanks with **for** and **since**:

1. We've been at Baker Streetthree times.
2. John has studied English.....1975.
3. It has snowedMonday.
4. We haven't had any exams.....a month.
5. Sarah and Joe have lived in Toronto.....many years.

EXERCISE 3. Write **yet**, **already**, **just** or **still**.

1. Have you studied for your Maths exam.....?
2. We have.....had a call from Philip.
3. Josh hasn't arrived.....I am..... waiting for him.
4. The new aerial has.....worked.
5. My friends have.....finished their final project.

EXERCISE 4. Write the present perfect or the past perfect in the following sentences:

1. Joan and Carl decided to visit the Blue Mountain after they.....(discuss) a lot about it.
2. The third day of our tour, it began to rain after the weather.....(change) a lot.
3. We(study) English for many years.
4. The boys.....(travel) around the world before they married.
5. We.....(think) we should use gold and diamond for finishing the jewel.

THE PRESENT PERFECT VERSUS PAST PERFECT KEY

EXERCISE 1. Write the present perfect in the following blanks:

1. They **have not finished** (not fished) building the new social centre yet.
2. She **has driven** (drive) her new car twice.
3. Our friends **have worked** (work) with chromium for two days.
4. We **have moved** (move) into our new house.
5. They **have not seen** (not seen) the new computer tools yet.

EXERCISE 2. Fill in the blanks with **for** and **since**:

1. We've been at Baker Street **for** three times.
2. John has studied English **since** 1975.
2. It has snowed **since** Monday.
3. We haven't had any exams **for** a month.
4. Sarah and Joe have lived in Toronto **for** many years.

EXERCISE 3. Write **yet**, **already**, **just** or **still**.

1. Have you studied for your Maths exam **yet** ?
2. We have **just** had a call from Philip.
3. Josh hasn't arrived **yet**. I am **just** waiting for him.
4. The new aerial has **already** worked.
5. My friends have **just** finished their final project.

EXERCISE 4. Write the present perfect or the past perfect in the following sentences:

1. Joan and Carl decided to visit the Blue Mountain after they **had discussed** (discuss) a lot about it.
2. The third day of our tour, it began to rain after the weather **had changed** (change) a lot.
3. We **have studied** (study) English for many years.
4. The boys **had travelled** (travel) around the world before they married.
5. We **have thought** (think) we should use gold and diamond for finishing the jewel.

5. PAST CONTINUOUS

The **past continuous** is used to "set the scene", or provide (longer) background information.

- E. The young couple **was walking** home after the party.
- C. La jove parella anava caminant cap a casa després de la festa.
- S. La joven pareja iba caminando hacia su casa después de la fiesta.

- E. They were speaking excitedly about their plans.
- C. Estaven parlant emocionadament dels seus plans.
- S. Estaban hablando emocionadamente sobre sus planes.

We tend to use the **past continuous** tense to speak about more temporary situations and actions:

- E. **I was working** in that bookshop for a few days last summer.
- C. Vaig estar treballant en aquella llibreria uns quants dies l'estiu passat.
- S. Estuve trabajando en aquella librería unos días el verano pasado.

PAST CONTINUOUS EXERCISES

EXERCISE 1. Write the past continuous of the following verbs:

WORK DREAM STUDY RECOVER

EXERCISE 2. Complete the following blanks with the appropriated tense:

Last night, while I was doing my homework, Jason (call).....She said she (call).....me on her cell phone from her biology classroom. I asked her if she (wait).....for class, but she said that the professor was at the front of the hall lecturing while she (talk).....to me. I couldn't believe she (make).....a phone call during the lecture. I asked what was going on.

EXERCISE 3. Complete the following sentences with simple past or past continuous:

1. I worked (work) very hard last night.
2. I was working (work) hard when the earthquake started.
3. The sun.....(rise) when he arrived in Bombay.
4. They(have) coffee when the mail came.
5. I.....(study) at the University of California.
6. She.....(watch) the game while feeding the baby.
7. The company(rent) office space in that tall building.
8. When the police arrived, they.....(shout) at each other.
9. The secretary.....(type) a letter for her boss.
10. They(dance) as the music.....(play).
11. They(buy) a house in the suburbs last year.
12. While I.....(write) a letter she was cooking.