

REPORT OF THE SUBJECT - ENGLISH GROUP

(January 2020)

(This document complements the regulations about the subject evaluation, common for all groups, available in PoliformaT)

Subject: Statistics - Bachelor Degree in Computer Engineering (code 11539)
Department of Applied Statistics, Operations Research and Quality

Lecturer: Manuel Zarzo Castelló

Tutorial sessions on demand by contacting the lecturer by email: mazarcas@eio.upv.es

Lecturer office: 5th floor of building 7A (department of Statistics)

Lecturer responsible of the subject (coordinator of all groups): Manuel Zarzo

THEORY / SEMINAR CLASSES:

- Schedule: Wednesday 11:30 - 13:00 and Friday 9:30 - 11:00 am (classroom 0.0 at building 1E).
- It is necessary to attend at least 20% of the classes to pass the subject. In order to control the attendance, a signature list will be handed over on each class. It is **not necessary to justify unattended classes**. It is forbidden to sign for someone missing.
- Students unable to attend regularly the theoretical or practical classes for any reason (job, health problems, etc.) should request at the school secretary the exemption from class attendance.
- It is necessary to bring a calculator and the formula tables to all classes.
- It is advisable to bring the printed slides of each unit which are available in PoliformaT.

Didactic material available in PoliformaT

- Formula tables (8 pages) and statistical tables (12 pages).
- Power Point presentations, which are different for each lecturer.
- Solved exams of previous years.
- Collection of exercises.

Recommended bibliography:

0-16 / 981: Applied Statistics and Probability for Engineers (Montgomery & Runger)

This book covers the same units of the present subject. It contains exercises and their final solution, but not how to solve them.

0-16 / 1000: General Statistics (Chase, W.; Bown, F.) (It contains many solved exercises).

0-16 / 1007: The New Statistical Analysis of Data (Anderson, T.W.; Finn, J.D.)

0-16 / 56N: (book with many exercises of Statistics in English)

- Métodos Estadísticos para Ingenieros (SPUPV - nº 4) (Rafael Romero, Luisa Zúnica).

Central Library UPV: 0-16 / 1369, 1375, 1376, 1377; 7-2 / 7705

Library ETSINF: **0-16 / 6, 37, 44, 45, 49-53, 61-66, 90, 95, 104-110, 120, 127-133, 140-153.**

- The art of computer systems performance analysis: Techniques for experimental design, measurement, simulation, and modeling (Jain, R.).
- Estadística para investigadores: introducción al diseño de experimentos, análisis de datos y construcción de modelos (Box, G.).
- Probabilidad y estadística aplicadas a la ingeniería (Montgomery, D.).
- Estadística, modelos y métodos (Peña Sánchez de Rivera, D.).

For this academic year, the comparison of two populations (equations included in the formulary tables) will NOT enter in the exams because this test can be solved with ANOVA.

FINAL MARK OF THE SUBJECT

$$\text{Final mark} = 0.55 \cdot (0.5 \cdot \text{partial}_1 + 0.5 \cdot \text{partial}_2) + 0.35 \cdot \text{pract_mark} + 0.10 \cdot \text{class_mark}$$

First partial exam: Tuesday 24th of March 2020 about 8:30 am (the hour and place will be announced in PoliformaT a few days in advance). The exam will be scored over 10 points and it will be the same for all groups. All students will be allowed to perform this exam, no matter the number of unattended classes.

Second partial exam: Wednesday 3rd of June 2020 about 8:30 am (the hour and place will be announced in PoliformaT a few days in advance). The exam will be scored over 10 points and it will be the same for all groups.

- Marks of both partial exams will be averaged according to the indicated weights ($0.5 \cdot \text{partial}_1 + 0.5 \cdot \text{partial}_2$), with the condition that $\text{partial}_1 \geq 3.5$ and $\text{partial}_2 \geq 3.5$. If this requirement is not accomplished (mark < 3.5), the student necessarily has to go to the final exam to retake the partial.

- If a student does not perform one partial exam, it will be scored as a zero.

- **Final exam:** Wednesday 17th of June 2020 about 8:30 am (the hour and place will be announced in PoliformaT a few days in advance). The exam will be the same for all groups and will consist of two parts, one for each partial.

- The student will pass the subject if the final mark is 5.0 or higher. In that case, the student should not perform the final exam, unless he/she wants to try to increase the mark. If the final mark is < 5, the student should perform the final exam in order to retake the failed exam and/or to increase the mark of those partial exams already passed.

- The final exam will be comprised by two parts, one for each partial. When a student performs one part of the final exam to improve the mark obtained in that partial, the final mark on that partial will be the maximum. For example, if $\text{partial}_1=4$, $\text{partial}_2=5$, $\text{final}_{\text{part1}}=3$, $\text{final}_{\text{part2}}=6$, the mark will be computed as $(4+6)/2$.

- It is a **requirement** to pass the subject to obtain a mark ≥ 3.5 in each partial, or in the retake of the partial. If this requisite is not accomplished (because the mark of a partial is below 3.5 as well as in the retake of that partial at the final exam), the mark of both partials will be considered as zero.

- Students granted with exemption of attendance will have to talk to the lecturer at the beginning of the subject in order to clarify the evaluation procedure.

- Students should bring a calculator and formula tables to the exam. The use of mobile phones or tablets as calculators is not permitted.

Students with a final score ≥ 9.0 are eligible to be granted a "honor score" (*matrícula de honor, MH*). According to the regulations of the school, the maximum number of MH is one every 20 students per group. These will be assigned to students who obtain the maximum final score, with the condition that it is ≥ 9.0 .

Class mark (scored from 0 to 10) will be calculated as following:

$$\text{Class_mark} = [(\text{EX1} + \text{EX2} + \text{EX3}) / 3] \cdot F_{\text{attendance}}$$

$F_{\text{attendance}}$: factor of attendance (value between 0 and 1): $F_{\text{attend}} = (N_{\text{attend}} - 5) / 18$

N_{attend} : number of theory classes attended (max = 28); if < 6, this factor becomes zero: class mark = 0; if > 22, this factor becomes 1 (maximum value).

New from year 2019-2020 (agreed by all professors): ***in order to get the highest score in class mark, it is a requirement to attend at least 80% of the theory classes.*** If this is not accomplished, students will get a lower class mark, based on the criterion of each professor.

EX1: mark of test-type exercises solved in class on **Friday 13th of March 2020**. All concepts explained in class up to this day will be evaluated.

EX2: mark of exercises (of test-type or open reply) that the lecturer will hand over to students at the class of **April 1st 2020**. Students will have to solve the exercises at home and give back the solutions on **April 19th**. It is necessary to justify all calculations (like in the exam). Exercises with correct answer but not properly justified will have a lower score or even disregarded. All concepts explained up to that date may be evaluated.

EX3: mark of test-type exercises solved in class on **Tuesday 26st of May 2020**. All concepts that enter for the second partial (all unit 5) will be evaluated.

Regarding to these test-type exercises (EX1 and EX3):

- They will be performed individually in the classroom.
- Only calculator and math tables will be allowed (laptops, tables or mobile phones are not allowed as calculators).
- They will be scored over 10. Only correct items will be scored. Wrong items will not decrease the mark.
- All answers should be properly justified, though the explanation will not be taken into account if the answer is wrong.
- If the answer is correct but it was not properly justified, it will not be scored.

Is the subject difficult?

88% of students passed Statistics (score > 5) in year 2018-2019

EVALUATION OF GENERIC SKILLS (new in year 2015-2016)

UPV has launched a pioneering project to evaluate all students, along their bachelor and master studies, a set of 13 generic skills. Thus, after finishing the degree, apart from the “traditional” average mark of the academic record, students will get an assessment (low, medium, high, excellent) in these skills:

- | | |
|---|---|
| 1- Comprehension and integration | 2- Application and practical thinking |
| 3- Analysis and solution of problems | 4- innovation, creativity, entrepreneurship |
| 5- Design and project | 6- teamwork and leadership |
| 7- Ethic and professional responsibility | 8- Effective communication |
| 9- Critical thinking | 10- Knowledge about contemporary problems |
| 11- Lifelong learning | 13- Planning and time management |

Each one of these skills will be scored by averaging the rating assigned by professors in those subjects that work about that skill. The subject of Statistics is control point of 3rd skill (**analysis and solution of problems**). Since the year 2015-2016, lecturers are requested to assign a score to each student about this skill. It will be calculated based on some questions of the exam which properly account for this skill, by discarding questions with certain theoretical or descriptive character. The subject will be passed if the final mark is at least 5.0 regardless the score of this generic skill. The final numeric score obtained in this skill will be coded as following: D (score < 2.5), C (from 2.5 to 5), B (from 5 to 7.5), and A (score > 7.5).

CLASSES IN COMPUTER LABORATORY

Venue: laboratory B, located in the basement of building 7A (Department of Statistics).

Professor: Ángeles Calduch (mcalduch@eio.upv.es)

Tuesdays from 1:00 to 2:30 pm **with some delay: 1:15 to 2:45 pm**

	EVALUATED
4 February	No
11 February	Yes (1 st)
3 March	Yes (2 nd)
10 March	Yes (3 rd)
31 March	Yes (4 th)

	EVALUATED
28 April	Yes (5 th)
5 May	Yes (6 th)
12 May	Yes (7 th)
19 May	Yes (8 th)

- No changes of groups will be allowed, except if the assistance was not possible because of a medical reason or exceptional circumstance. In such case, the student should notify the lecturer as soon as possible by e-mail so that he will indicate in which group the student might perform the session (the planning of sessions for all groups is available in PoliformaT).
- The attendance to the practical sessions is not compulsory, but if a student does not attend a session, he/she will get a null score in the evaluation of that session.
- If a student does not attend a session and this one cannot be retaken (because it was already taught in all the other groups), this session will be regarded as unattended despite of providing medical proof.
- Practical sessions will be performed in groups of two students. It is not necessary to maintain the same classmates in all sessions.
- It is recommended to bring the formula tables because they will be used in certain practical sessions. It is not necessary to bring any additional printed material.
- At the end of each session (except in the first), students will perform an evaluation through PoliformaT (or with a written evaluation), which will last about 45 minutes. The lecturer will provide a password to start this evaluation. It will consist of 5 to 10 test-type questions randomly generated from a large pool. Only one answer will be correct. The evaluation will be performed by 'individual' groups of two students, without the help from the lecturer or from other groups. The mark obtained will be communicated after the next week. To perform these evaluations, one of the two students will enter PoliformaT with his/her password, and the mark will be saved in PoliformaT 'scores'. Subsequently, the lecturer will assign 'manually' the mark to the student mate of each group and keep record of the marks in a list. In order to have the appropriate control, students are requested to sign and indicate the names of both members of each group.

In those sessions evaluated by means of a written test, the scores will be communicated at the next session, but the lecturer needs to keep all the tests.

- pract_mark (scored on a 0-10 scale) will be computed as the average of the **8** assessed sessions (see table above). If a student does not attend a session, he/she will get a zero, unless it was properly retaken as explained above.

- Students will not have the opportunity to improve their practical marks. Students who repeat the subject will also have to repeat all practical sessions.

- The software Statgraphics 5.1 will be used in all sessions. Students interested in installing the program (version Centurion) in personal computers should follow these instructions:

- Installation of STATGRAPHICS Centurion

The license contracted by UPV with the company that distributes Statgraphics allows all university members (lecturers and students) to install legally the program (in Spanish or English) and use it in computers of the university and in their own personal laptops and computers with Windows operating system.

<http://software.upv.es> → folder “Statgraphics Centurion XVII”

- 1) Read the document “instrucciones de instalación”
- 2) Open the document “número de serie Centurion XVII” to get the serial number for the license of UPV (both for the edition of 32 bit and 64 bit, Spanish or English). Please note that “0” is the zero number, not the letter ‘O’.

Important issues to install correctly the software:

- To enter correctly the serial number. It is recommended to copy - paste the serial number, not putting blank spaces at the beginning nor the end.
- To have an administrator account on Windows; in the case of Windows Vista or Windows 7, it is necessary to run the program with the right button of the mouse - option "Run as Administrator". This must be done when installing and running the program for the first time.
- When the software is started for the first time, it is necessary to click “activate” in the window of the “license administrator” and fill the form by introducing the data, serial number and email address without subdomain. For example: pepe@etsinf.upv.es should be introduced as pepe@upv.es. Next, press option “1” (send the request by internet).

IMPORTANT: severe disciplinary measures might be taken if a student is detected copying in one exam. If it happens, the group of professors will discuss the issue, and the student might be penalized with a failure in the subject (final score = 0).