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|---|----------------|-------------------|
| <b>SUBJECT: ESPECIALIZED TECHNIQUES IN MACHINE TEST AND CALCULATION</b> |                |                   |
| <b>MASTER DEGREE: INDUSTRIAL MECHANICS</b>                              | <b>ECTS: 4</b> | <b>QUARTER: 1</b> |

| <b>TIMETABLE FOR THE SUBJECT</b> |                |                                    |                       |          |   |  |                        |                              |
|----------------------------------|----------------|------------------------------------|-----------------------|----------|---|--|------------------------|------------------------------|
| <b>WEEK</b>                      | <b>SESSION</b> | <b>DESCRIPTION OF EACH SESSION</b> | <b>GROUP (X mark)</b> |          | <b>Indicate if a different lecture room is needed (computer, audiovisual, etc.)</b> | <b>HOMEWORK PER WEEK</b>   |                        |                              |
|                                  |                |                                    | <b>1</b>              | <b>2</b> |   | <b>DESCRIPTION</b>   | <b>ATTENDING HOURS</b> | <b>HOMEWORK Max. 7H/WEEK</b> |
| 1                                | 1              | Subject presentation               |                       |          |   | Subject presentation   | 1.5                    | 2                            |
| 2                                | 2              | Virtual tests                      |                       |          |   | The student will know the different decisions that must be taken when developing a finite element model and how they affect results. | 1.5                    | 2                            |
| 3                                | 3              | Virtual tests II                   |                       |          | Computer lab  | The student will apply what they learned in the previous class by using a finite elements software                                   | 1.5                    | 4                            |



|   |   |                       |  |  |              |  |     |   |
|---|---|-----------------------|--|--|--------------|--|-----|---|
| 4 | 4 | Virtual tests III     |  |  |              | The student will know the different decisions that must be taken when developing a finite element model and how they affect results. | 1.5 | 4 |
| 5 | 5 | Virtual tests IV      |  |  | Computer lab | The student will apply what they learned in the previous class by using a finite elements software                                   | 1.5 | 4 |
| 6 | 6 | Uncertainty in FEM I  |  |  |              | The student will learn how to extend the concept of uncertainty (typical of a measurement system) to a virtual test                  | 1.5 | 2 |
| 7 | 7 | Uncertainty in FEM II |  |  |              | The student will learn how to extend the concept of uncertainty (typical of a measurement  | 1.5 | 4 |



|    |    |                          |  |  |              |  |     |   |
|----|----|--------------------------|--|--|--------------|--|-----|---|
|    |    |                          |  |  |              | system) to a virtual test  |     |   |
| 8  | 8  | Uncertainty in FEM III   |  |  | Computer lab | The student will apply what they learned in the previous class by using a finite elements software | 1.5 | 4 |
| 9  | 9  | Continuous evaluation    |  |  |              |  | 1.5 |   |
| 10 | 10 | Extensometry             |  |  |              | Acquisition of basic concepts of extensometric tests   | 1.5 | 4 |
| 11 | 11 | Extensometry practice    |  |  | Lab          | Acquisition of basic concepts of extensometric tests   | 1.5 | 2 |
| 12 | 12 | Extensometry practice    |  |  | Lab          | Strengthening of the knowledge acquired on the extensometric method                                | 1.5 | 2 |
| 13 | 13 | Photoelasticity practice |  |  | Lab          | Acquisition of basic concepts of photoelastic tests  | 1.5 | 4 |



|                    |    |                            |  |  |     |   |           |           |
|--------------------|----|----------------------------|--|--|-----|---|-----------|-----------|
| 14                 | 14 | Photoelasticity practice   |  |  | Lab | Acquisition of basic concepts of photoelastic tests | 1.5       | 4         |
|                    |    | Tutorials, handing in, etc |  |  |     |   | 2,5       | 3         |
|                    |    | Assessment                 |  |  |     |   | 1,5       | 30        |
| <b>TOTAL HOURS</b> |    |                            |  |  |     |   | <b>25</b> | <b>75</b> |