

SYLLABUS

1. Data about the program of study

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|-----|--------------------------------|--|
| 1.1 | Institution | The Technical University of Cluj-Napoca |
| 1.2 | Faculty | Faculty of Automotive Engineering, Mechatronics and Mechanics |
| 1.3 | Department | Automotive Engineering and Transportation |
| 1.4 | Field of study | Automotive Engineering |
| 1.5 | Cycle of study | Master in Science |
| 1.6 | Program of study/Qualification | Tehnici Avansate în Ingineria Autovehiculelor (Advanced Techniques in Automotive Engineering) - în limba engleză |
| 1.7 | Form of education | Full time |
| 1.8 | Subject code | 12.00 |

2. Data about the subject

| | | | | |
|----------------------|--------------------------------|------------------------|----|----------------|
| 2.1 | Subject name | Research Activity 2 | | |
| 2.2 | Subject area | Automotive Engineering | | |
| 2.2 | Course responsible/lecturer | - | | |
| 2.3 | Teachers in charge of seminars | - | | |
| 2.4 Year of study | I | 2.5 Semester | II | 2.6 Assessment |
| | | | | C |
| 2.7 Subject category | Formative category | | | DA |
| | Optionality | | | DI |

3. Estimated total time

| | | | | | | | | | | |
|--|-----|----------|------------|---|-------------|---|---------------|---|-------------|-----|
| 3.1 Number of hours per week | 14 | of which | 3.2 Course | 0 | 3.3 Seminar | 0 | 3.3 Laborator | 0 | 3.3 Proiect | 14 |
| 3.4 Total hours in the curriculum | 196 | of which | 3.5 Course | 0 | 3.6 Seminar | 0 | 3.6 Laborator | 0 | 3.6 Proiect | 196 |
| 3.7 Individual study: | | | | | | | | | | |
| (a) Manual, lecture material and notes, bibliography | | | | | | | | | | 0 |
| (b) Supplementary study in the library, online and in the field | | | | | | | | | | 52 |
| (c) Preparation for seminars/laboratory works, homework, reports, portfolios, essays | | | | | | | | | | 0 |
| (d) Tutoring | | | | | | | | | | 0 |
| (e) Exams and tests | | | | | | | | | | 2 |
| (f) Other activities | | | | | | | | | | - |
| 3.8 Total hours of individual study (summ (3.7(a)...3.7(f))) | | | | | | | | | | 54 |
| 3.9 Total hours per semester (3.4+3.8) | | | | | | | | | | 250 |
| 3.10 Number of credit points | | | | | | | | | | 10 |

4. Pre-requisites (where appropriate)

| | | |
|-----|------------|--|
| 4.1 | Curriculum | |
| 4.2 | Competence | |

5. Requirements (where appropriate)

| | | |
|-----|--|--|
| 5.1 | For the course | |
| 5.2 | For the applications seminarului / laboratorului / proiectului | |

6. Specific competences

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|--------------------------|--|
| Professional competences | Be able to draw up a research plan; To carry out documentation using an indexed international database (SCOPUS); Develop the main chapters of a research paper. |
| Cross competences | Applying multidisciplinary teamwork and multidisciplinary work techniques on different hierarchical levels within working groups - specific project management; Appropriate use of effective learning methods and techniques; adequate use of information and oral and written communication. |

7. Discipline objectives (as results from the *key competences gained*)

| | | |
|-----|---------------------|---|
| 7.1 | General objective | Acquiring knowledge about research |
| 7.2 | Specific objectives | Elaboration of the main chapters of a research paper; Be familiar with Internet browsing tools; Acquiring bibliographic search tools in international databases |

8. Contents

| 8.1. Lecture (syllabus) | Number of hours | Teaching methods | Notes |
|---|-----------------|---|-------|
| | | | |
| 8.2. Seminars /Laboratory/Project | Number of hours | Teaching methods | Notes |
| 1. Defining the objectives of the research activity that will be accomplished in the dissertation work.. | 2 | Practical work; processing and interpretation of results | |
| 2. Establishment of the theoretical, experimental and / or numerical simulation program that will be realized in the dissertation work. | 2 | | |
| 3. Documentation on the theme of dissertation | 82 | | |
| 4. Making a synthesis of bibliographic documentation. | 110 | | |
| Bibliography ✓ 5 titles, established together with the tutor | | | |

9. Bridging course contents with the expectations of the representatives of the community, professional associations and employers in the field

The content of the discipline is in line with the concerns of the companies in the field and the current directions of scientific research.

10. Evaluation

| Activity type | 10.1 Assessment criteria | 10.2 Assessment methods | 10.3 Weight in the final grade |
|---|--|-----------------------------|--------------------------------|
| 10.4 Course | - | - | - |
| 10.5 Seminars /Laboratory/Project | The exam consists of checking the synthesis report of the activities carried out | Oral and written evaluation | 100% |
| 10.6 Minimum standard of performance | | | |
| For the synthesis report of the activities carried out, minimum grade 5(five) | | | |

| Date of filling in: | | Title Surname Name | Signature |
|---------------------|---|------------------------------------|-----------|
| 23.02.2023 | Lecture | - | |
| | Teachers in charge of application (masters program responsible) | Prof. PhD Habil. Eng. Bogdan VARGA | |

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| Date of approval in the department | Head of department |
| 20.04.2023 | Prof.PhD.Eng. Barabás István |
| _____ | |
| Date of approval in the faculty | Dean |
| 11.10.2023 | Prof.PhD.Eng. Filip Nicolae |
| _____ | |