Self-propelled transportation systems **(IVth Year, VIIth SEMESTER)**

**Credit value** ECTS V4

## Course category

Domain (Imposed)

**Course Code:** A.EMIAIA.S.410

**Course coordinator:  
prof. PhD. Roşca Radu**

# Course objectives

Introduction to self-propelled vehicles used for agricultural transport

# Contents (syllabus)

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| **Course (chapter/subchapters)** |
| Transportaion vehicle types; dimensions and ride capacity. |
| Vehicle elf-propelling and wheel rolling process |
| Road loads. |
| Axle loads |
| Wheeled vehicles performances and traction balance |
| Vehicle stability and cornering properties |
| Pneumatic braking systems for transportation vehicles |
| Vehicle suspensions |
| Track propulsion. |
| Introduction to road traffic. |
| **Practical training** |
| Modelling the engine power characteristics |
| Transmission ratio for main transmission and first gear |
| Establishing the number of gears and transmission ratios |
| Evaluation of the dynamic characteristics of the vehicle |
| Engine diagnosis using OBD |

# References

1. Gillespie T.D., 1992, Fundamentals of vehicle dynamics, S.A.E. Inc., Warrendale, PA, USA.

2. Ghiulai C., Vasiliu Ch., 1975, Dinamica autovehiculelor, Edit. Didactică şi Pedagogică, Bucureşti.

3. Jazar N.R., 2008, Vehicle dynamics: theory and applications, Springer Science-Business Media, LLC.

4. Karnopp D., 2004, Vehicle stability, Marcel Dekker Inc, New York-Basel.

5. Neculăiasa V., 1996, Mişcarea autovehiculelor, Edit. Polirom, Iaşi

6. Roşca R., 2024, Sisteme de transport autopropulsate (note de curs) – pe platforma MSTeams

7. Untaru M. ş.a., 1981, Dinamica autovehiculelor pe roţi, Edit. Didactică şi Pedagogică, Bucureşti.

**Final evaluation**

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| **Evaluation form** | **Evaluation method** | **Percent of final grade** |
| Course attending | - | 10% |
| Practical training | tests, activity | 30% |
| Exam | written test | 60% |

**Contact**

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