|  |  |  |
| --- | --- | --- |
|  | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 |  |
| Study Programme AccreditationMASTER STUDIES *AGRINDUSTRIAL ENGINEERING* |
| Table 5.2 Course specification |

|  |  |
| --- | --- |
| Course: | **Development and use of single axle tractors and motor implements** |
| Course id: |
| Number of ECTS: |
| Teacher: | **Mirko Simikić PhD, Assistant professor** |
| Course status | **Elective** |
| Number of active teaching classes (weekly) |
| Lectures: | Practical classes: | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None |
| **Educational goal**The objective of the course is to familiarize students with the development and more efficient use of single-axle tractors and power tools. Also, students should be familiar with the structures, functioning, the basic setup, maintenance and safety precautions when working with single-axle tractors and power tools. |
| **Educational outcomes**Upon passing the exam the student acquires the knowledge and skills which provide him with essential understanding of the technical basis of single-axle tractors and power tools. Knowledge acquired through this course will serve as a base for the correct choice, rational and safe usage of small machinery with the aim of improving agricultural production, especially on small farms, yards and in mountainous areas.  |
| **Course content***Theoretical lessons*. Classification of single-axle tractors and power tools. Theory of movement of single-axle tractors – soil characteristics, the characteristics of the tires, the structure of the systems. Tendencies in the development of single-axle tractors. Development of power tools. The development of engine for single-axle tractors and power tools. The development of implements for single-axle tractors and power tools. Maintenance and care of single-axle tractors and power tools. Possible injuries, consequences and preventive measures when working with single-axle tractors and power tools. Standards and testing single-axle tractors and power tools.*Practical teaching: Exercises, Other methods of teaching, Research work*Introduction to the structure, operating principle and settings of single-axle tractors and power tools. Basics of calculation for stability of single-axle tractors and power tools – longitudinal stability, lateral stability and stability in a curve. Traction and energy balance of single-axle tractors at work with a variety of power tools – basics of calculation. Introduction to the hazardous parts of single-axle tractors and power tools and regulations for safe handling.  |
| **Teaching methods**The method of oral presentations and discussions. Methods of presentation, demonstration, simulation, drawing and illustration. Consultations and seminar papers. The method of practical work in laboratories and at the Institute. |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam  | Mandatory | Points |
| Lecture attendance | Yes | 5 | *Oral part of the exam* | Yes | 60 |
|  |
| Exercise attendance | Yes | 5 |
| Term paper | Yes | 30 |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Nikolić et al | Development and use of single axle tractors and motor implements | Faculty of agriculture Novi Sad | 2011 |
|  | Nikolić R, Savin L,Simikić M. | Power machines | Faculty of agriculture Novi Sad | 2008 |
|  | Nikolić R, Savin L,Simikić M. | Tractors - testing | Faculty of agriculture Novi Sad | 2007 |