Energy saving and soil conservation tillage (SMKNT2A25AN)

Course title: **Energy saving and soil conservation tillage**

Course leader: Márta Birkás ; **Other lecturer: Zoltán Kende**
Semester: 2016/17/1 (winter)
Credits: 3
Weekly workload: 2 hrs lecture
Pre-requisites: no
Lectures (Tuesday: 8^{15}-9^{45}, Labor 2, Crop Production Institute)

1. Introduction: Learning pictures. **Invitation to prepare individual projects in different themes (Deadline and presentation: at the final lecture).**
2. Tillage tools, precedents of energy saving and soil conservation in earlier eras.
3. Land use, soil tillage and soil conservation / **field visit, soil condition assessment**.
4. Conventional soil tillage. Characterization, criticism.
5. Steps in soil tillage development.
6. Factors affecting energy demand and soil degradation in soil tillage 1
7. Factors affecting energy demand and soil degradation in soil tillage 2
8. Climate stress – Mitigation steps
9. Direct drilling. Applicability, advantages and considerations.

10-11. Reduced, energy saving and soil conservation tillage systems: advantages, disadvantages and considerations

12. Climate change and the consequences
13. Special theme

Students' presentation in the invited themes and discussion

Reading:
Birkás M., et al., 2008. Environmentally-sound Adaptable Tillage, Akadémiai, Budapest
Lectures' ppt presentations

Assessment:
The assessment has one part, and a five-graded 100 scores evaluation system.

- an individual project (homework) worth 25 scores may suggest for students (inclusive in the exam points)
- descriptions of the field visits (2 pages/visit, with pictures) (0-25 scores), delivering till 1st December
- an oral exam at the end of the semester (0-50 scores)

Lectures sessions are recommended. The five grades are 1, 2, 3, 4, 5 according to the scored points of the total 100, listed below in the table:

5 (excellent)	86-100 scores
4 (good)	76-85 scores
3 (satisfactory)	61-75 scores
2 (pass)	51-60 scores
1 (fail)	50 scores and below

Gödöllő, 5th September, 2016

Prof. Dr. Márta Birkás

Possible themes for individual project (Presenting at the final lecture)

1. Weed problems and control in national relation
2. Evaluating different spade samples
3. Climate change – scenarios and facts in world-wide/national relation
4. Soil tillage development in national relations
5. Soil tillage development in the continent
6. New soil tillage steps in world-wide/national relation
7. Interesting/unforeseen/special story/decision/case from the history of soil conservation in world-wide/national relation
8. Soil tillage practice in the own/acquaintance farm (critical evaluation)
9. Others