

Crops Irrigation (IIIrd Year of study, Vth Semester)

Credit value (ECTS) 5

Course category

Specialized (Compulsory)

Course holder:

Prof. PhD. Daniel BUCUR

Discipline objectives (course and practical works)

Knowledge by specialists working in agriculture of the principles of exploitation of cultivated soils from irrigation systems for obtaining large, stable and quality crops in conditions of soil fertility conservation.

Assimilation of theoretical knowledge on soil water potential and availability of soil water for plants.

Obtaining skills for determining water consumption from irrigated soils, elements of irrigation regime, forecasting and watering application.

Knowledge of irrigation techniques and irrigation equipment.

The practical training aim at familiarizing students with watering techniques and establishing the technical elements of watering.

Contents (syllabus)

Course (chapters/subchapters)
Peculiarities of irrigated agriculture.
Soil moisture in irrigated agriculture.
Water consumption of irrigated crops.
Irrigation scheduling
Irrigation regime and irrigation dynamics
Sprinkler irrigation technique
Surface irrigation technique
Low-flow irrigation technique (including drip and trickle)
Irrigation techniques in special field conditions: irrigation of sandy soils; slope lands irrigation
Field and horticultural crops and pasture irrigation

Practicum
Types of soil moisture
Irrigation water consumption from irrigated cropland
Establishing the irrigation regime
Irrigation scheduling
Measurement of furrow infiltration rates
Determination of the technical elements of furrow watering.
Furrow irrigation management
Evaluating sprinkler irrigation uniformity
Knowledge and use of sprinkler equipment.

Sprinkler irrigation management
Drawing up the watering schedule
Furrow irrigation management
Determination of the technical elements of drip watering.
Knowledge and use of drip irrigation equipment
Final colloquium of knowledge evaluation

References

1. **Bucur D. ed., 2019** - *Advanced Evapotranspiration Methods and Applications*, IntechOpen, London, DOI: 10.5772/intechopen.73720, 128 pages, ISBN: 978-1-78985-811-2
2. **Bucur D. ed., 2017** - *Current Perspective to Predict Actual Evapotranspiration*, InTech, Rijeka, ISBN 978-953-51-3173-1.
3. Cena D., 2015 - *Design and Operation of farm Irrigation System*, Koros Press Ltd., London
4. Rieul L., Ruelle P., 2003 - *Irrigation - guide pratique*, Cemagref, Paris.
5. Savu P., **Bucur D.**, Jităreanu S. I., 2005 - *Land reclamation and crops irrigation - practical training* (in Romanian), “Ion Ionescu de la Brad” Publishing house, Iasi.

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Exam	Grid test	70%
Appreciation of the activity during the semester	Oral assessment during the semester, verification tests and final laboratory colloquium.	30%

Contact

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