

Faculty of Environmental Management and Agriculture

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Course title: AGRICULTURAL WASTE MANAGEMENT

ECTS credit allocation (and other scores): 2.0

Semester: spring

Level of study: ISCED-7 - second-cycle programmes (EQF-7)

Branch of science: Agricultural sciences

Language: English

Number of hours per semester: 30

Course coordinator/ Department and e-mail: dr hab. inż. Andrzej Klasa, Department of Agricultural Chemistry and Environmental Protection, [andrzej.klasa@uwm.edu.pl](mailto:andrzej.klasa@uwm.edu.pl)

Type of classes: classes and lectures

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Substantive content

CLASSES: The composition of municipal waste. Determination of the chemical properties of composed municipal waste. The chemical properties of raw and composted sewage and sewage sludge. Solid industrial waste.

LECTURES: Legal aspects of waste management. Waste classification. Use of municipal waste and sewage sludge in agriculture and land reclamation. Production and application of composted municipal waste and sewage sludge. Utilization of wastes from food processing, agriculture, energy generation and construction. Threats associated with waste management in agriculture.

Learning purpose: Students learn about various methods of managing organic and mineral waste in agricultural production.

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On completion of the study programme the graduate will gain:

Knowledge: The student is familiar with legal regulations relating to the management of waste in agriculture. The student understands the influence of waste on soil properties and the quality of agricultural produce.

Skills: The student identifies the requirements for the use of organic and mineral waste in agriculture. The student is familiar with the environmental risks associated with the use of waste in agriculture.

Social Competencies: The student is familiar with the environmental risks associated with the use of industrial and municipal waste in soil improvement.

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Basic literature: Ashworth G.S., Azevedo P. 2009. Agricultural Wastes. Nova Science Publishers; Bertoldi M., Sequi P., Lemmes B., Papi T. 1996. The Science of Composting. Springer Science + Business Media, Dordrecht; Blaschek H.P., Ezeji T.C., Scheffran J. 2010. Biofuels from Agricultural Wastes and Byproducts. Wiley-Blackwell; Nguyen V.T. 2017. Recovering Bioactive Compounds from Agricultural Wastes. Wiley Publishers; Basu P. 2013. Biomass Gasification, Pyrolysis and Torrefaction.: Practical Design and Theory. Academic Press.

Supplementary literature: -

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The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 1.24 ECTS points

Student's independent work: 0.76 ECTS points