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| Course: | Feed quality control |
| Course id: 8MST1I24 |
| Number of ECTS: 6 |
| Teacher: | Igor M. Jajić, PhD, Associate Professor |
| Course status: | Elective |
| Number of active teaching classes (weekly) |
| Lectures: 2 | Practical classes: 2 | Other teaching types: | Study research work: | Other classes: |
| Precondition courses | None/navesti ako ima |
| 1. Educational goal

The attainment of practical knowledge in the field of feed quality control methods, which are mostlyanalytical chemistry and structure determination of feeding mixtures by microscopy. Introducing students to performingbiological experiments on domestic animals. |
| 1. Educational outcomes

Ability of students to work independently in the field of feed quality control. |
| 1. Course content

Theoretical classes: Introduction. Measurement and measurement error. Sensory tests. Physical examination. Chemical methods: 1.Gravimetrija-precipitation method. 2. Volumetry - acidimetry and alkalimetry; oxidation-reduction: iodometry and permanganometry; precipitation: argentometry; complexometry. Instrumental methods: 1. Optical methods: colorimetry, spectrophotometry, flame photometry, atomic absorption spectrophotometry, fluorimetry, nephelometry, polarimetry. 2. Electroanalytical methods: potentiometry, conductometry. 3. Methods of Separation: column adsorption chromatography, paper chromatography, thin layer chromatography, gas chromatography, high pressure liquid chromatography, automatic amino acid analysis by ion exchange chromatography. Microscopy of fodder in quality control. Biological investigations.Practical teaching-Exercises: Preparation of the laboratory sample. Standard chemical analysis - Weende method. Determination of macro and micronutrients using optical methods. Determination lipo- and hydro- soluble vitamins by liquid chromatography. Determination of anti-nutritive substances (urease activity and glucosinolates). Application of Van Soest methods for the analysis of feedstuffs: neutral detergent fiber (NDF), acid detergent fiber (ADF), lignin, cellulose, hemicellulose. Determination of β-carotene. Quality control method by using microscopy in the production of premixes and mixtures. Performing experiments. |
| 1. Teaching methods

Lectures, Practical classes, Consultations, research work |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam (izabrati) | Mandatory | Points |
| Lecture attendance | Yes/No | 5 | *Oral part of the exam* | Yes | 50 |
| Test | Yes/No | 20 |  |
| Exercise attendance | Yes/No | 10 |
| *Term paper* | Yes/No | 15 |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Marjanović N., Janković I.  | Instrumentalne metode analize. | Tehnološki fakultet, Novi Sad | 1983 |
|  | Mišović J., Ast T. | Instrumentalne metode hemijske analize. | Tehnološko-metalurški fakultet, Beograd | 1989 |
|  | Stanaćev, V., Kovčin S. | Hraniva i tehnologija stočne hrane i Osnovi ishrane domaćih životinja - Praktikum | Poljoprivredni fakultet, Novi Sad | 2003 |
|  | Vohringer H., Huss W. | Smernice za kontrolu kvaliteta stočne hrane metodom mikroskopiranja  | Hoffmann-la Roche, Wien. | 1997 |

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| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Programme AccreditationMASTER ACADEMIC STUDIES ANIMAL SCIENCE |
| Table 5.2 Course specification |