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| **Table S2.6.4. Course information form** | | | | |
| **Course name** Statistics | | | | |
| **Course code** | **Course status** | **Semester** | **Number of ECTS** | **Lecture hours** |
|  |  | **1** | **4** | **2+2** |

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| **Study programs for which the course is organized**  Biotechnical faculty, Plant and Livestock production | | |
| **Prerequisites** none | | |
| **Course aims** Introduction to fundamental statistical tools used in Plant and Livestock production, as well as software tools for statistical processing and analyzing data. | | |
| **Course content ( lectures, forms of individual student work, forms of testing) by weeks as per the academic calendar:** | | |
| Preparation week | Introduction to course literature and obligations during lectures. | |
| I week | Introduction to statistics. The notions of statistical set, population, sample and statistical concluding. | |
| II week | Mean value measures with agricultural examples. Dispersion measures with agricultural examples (Processing sensor data: temperature and humidity, soil moisture, pH of soil, intensity of light and carbon-dioxide) | |
| III week | Grouping and processing data. Sturges’ rule. Histogram. | |
| IV week | z variable and suspicious data. Percentiles. Pie chart. | |
| V week | Estimators – basic notions. Estimating mean values and estimations of error. | |
| VI week | Estimating variance and the standard deviation. Estimation of error. | |
| VII week | Preparation for the first midterm test and the first midterm test. | |
| VIII week | Testing hypotheses – basic notions. Gauss distribution. | |
| IX week | Expected value test for a normally distributed population. | |
| X week | Expected value test based on big samples. t-test | |
| XI week | F-test. Binomial and Poisson distribution. Linear regression. | |
| XII week | Software tools for statistical processing and analyzing data (Excel, SPSS): Introduction | |
| XIII week | Software tools for statistical processing and analyzing data (Excel, SPSS): Descriptive statistics on the example of sensor data in agriculture (temperature and humidity, soil moisture, pH of soil, intensity of light and carbon-dioxide) | |
| XIV week | Software tools for statistical processing and analyzing data (Excel, SPSS): Statistical tests on the example of sensor data in agriculture (temperature and humidity, soil moisture, pH of soil, intensity of light and carbon-dioxide) | |
| XV week | Preparation for the second midterm test and the second midterm test. | |
| **Methods of lecture** | | |
| **Student workload** | | |
| Weekly  5 hours= 2 hours of lectures, 2 hours of exercises, 1 hour of individual activity including consultations | | During the semester |
| **Student obligations during lectures:** Attending lectures, doing homeworks. | | |
| **Literature:** Ivanković D, i sur. Osnove statističke analize za medicinare. Zagreb: Medicinski fakultet Sveučilišta u Zagrebu, 1989.; Statistics, R.J.Barlow; Vjerojatnost i statistika, skripta M.Lazar | | |
| **Study outcomes (adjusted to the outcomes for the study program)** After finishing this course, the student will be able to 1. Process and do basic analysis of a set of data (mean, standard deviation, charting histograms…) 2. Recognize data distributed according to the binomial, Poisson and Gauss distribution 3. Calculate the probability of certain events 4. Apply methods for estimating basic statistical values 5. Interpret results obtained by data analysis 6. Use the internet as a source of information 7. Recognize situations in which various statistical tests are used 8. Use software tools for processing and analyzing information. | | |
| **Tests and grading:** Midterm tests and oral exam. First midterm test 40 points. Second midterm test 40 points. Final exam 20 points. | | |
| **Name and surname of lecturer and assistant: Darko Mitrović** | | |
| **Specificities that need to be stated regarding the course:** | | |
| *Comment (if necessary):* | | |