

# BIOSTATISTICS

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|-------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>    | Course Title:                                                           | BIOSTATISTICS                                                                                                                                   |
| <b>2</b>    | Course Code:                                                            | MBG2004                                                                                                                                         |
| <b>3</b>    | Type of Course:                                                         | Compulsory                                                                                                                                      |
| <b>4</b>    | Level of Course:                                                        | First Cycle                                                                                                                                     |
| <b>5</b>    | Year of Study:                                                          | 2                                                                                                                                               |
| <b>6</b>    | Semester:                                                               | 4                                                                                                                                               |
| <b>7</b>    | ECTS Credits Allocated:                                                 | 6.00                                                                                                                                            |
| <b>8</b>    | Theoretical (hour/week):                                                | 2.00                                                                                                                                            |
| <b>9</b>    | Practice (hour/week):                                                   | 2.00                                                                                                                                            |
| <b>10</b>   | Laboratory (hour/week):                                                 | 0                                                                                                                                               |
| <b>11</b>   | Prerequisites:                                                          | none                                                                                                                                            |
| <b>12</b>   | Language:                                                               | Turkish                                                                                                                                         |
| <b>13</b>   | Mode of Delivery:                                                       | Face to face                                                                                                                                    |
| <b>14</b>   | Course Coordinator:                                                     | Dr. Öğr. Üyesi Adnan Kılıç                                                                                                                      |
| <b>15</b>   | Course Lecturers:                                                       | Dr. Öğr. Üyesi Handan Engin KIRIMLI                                                                                                             |
| <b>16</b>   | Contact information of the Course Coordinator:                          | Mail: adnank@uludag.edu.tr<br>Bursa Uludağ Üniversitesi Fen edebiyat Fakültesi Fizik Bölümü<br>Dahili Tel: 41703                                |
| <b>17</b>   | Website:                                                                |                                                                                                                                                 |
| <b>18</b>   | Objective of the Course:                                                | To educate students to become qualified in the field of data collection, organization, analyzing, explanation and decision-making for a subject |
| <b>19</b>   | Contribution of the Course to Professional Development:                 |                                                                                                                                                 |
| <b>20</b>   | Learning Outcomes:                                                      |                                                                                                                                                 |
|             | <b>1</b>                                                                | definition of biostatistics and theoretical distributions                                                                                       |
|             | <b>2</b>                                                                | definitive parameters for distributions,                                                                                                        |
|             | <b>3</b>                                                                | definitive table and graphic making methods                                                                                                     |
|             | <b>4</b>                                                                | parametric and nonparametric importance test                                                                                                    |
|             | <b>5</b>                                                                | analysis of correlation and regression                                                                                                          |
|             | <b>6</b>                                                                | sampling methods                                                                                                                                |
|             | <b>7</b>                                                                | which importance test will be use for statistical analysis of a research                                                                        |
|             | <b>8</b>                                                                | evaluation and explanation of a scientific research                                                                                             |
|             | <b>9</b>                                                                |                                                                                                                                                 |
|             | <b>10</b>                                                               |                                                                                                                                                 |
| <b>21</b>   | Course Content:                                                         |                                                                                                                                                 |
|             | <b>Course Content:</b>                                                  |                                                                                                                                                 |
| <b>Week</b> | <b>Theoretical</b>                                                      | <b>Practice</b>                                                                                                                                 |
| <b>1</b>    | Introduction, statistical definitions and usage in veterinary field     |                                                                                                                                                 |
| <b>2</b>    | Classification of data and definitive frequency distribution parameters |                                                                                                                                                 |
| <b>3</b>    | Table and graphic making methods, marginal, cross table, histogram      |                                                                                                                                                 |

|    |                                                                                                                                                                                    |  |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 4  | Theoretical distributions and importance tests, general information, variations in measurements, parametric and nonparametric importance tests, making decision for correct choice |  |
| 5  | Importance test for difference between two means, comparing means of groups                                                                                                        |  |
| 6  | Variance analysis and estimation technique of different groups by investigating relevant variances, Tukey, Duncan and Dunnett Tests                                                |  |
| 7  | Importance test for the difference between two percentages; dependent and independent group testing                                                                                |  |
| 8  | Population mean importance test, homogeneity test                                                                                                                                  |  |
| 9  | Variance analysis at recurrent measurement, one way anova testing procedure                                                                                                        |  |
| 10 | Nonparametric tests; The sign test, Mann Whitney U test, Wilcoxon paired two sample test                                                                                           |  |
| 11 | Kruskal Wallis variance analysis                                                                                                                                                   |  |
| 12 | Chi-square test, Yates correction, Fisher's chi-square test, r x c chi-square test                                                                                                 |  |
| 13 | Simple correlation and regression analysis                                                                                                                                         |  |
| 14 | Sampling methods                                                                                                                                                                   |  |

| Activites                                                                    |                                                                                                                                      | Number                               | Duration (hour) | Total Work Load (hour) |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------|------------------------|
| Theoretical                                                                  |                                                                                                                                      | By a statistik, Kan İ. Bursa, 20198. |                 | 28.00                  |
| Practicals/Labs                                                              |                                                                                                                                      | 14                                   | 2.00            | 28.00                  |
| Self study and preperation                                                   |                                                                                                                                      | 14                                   | 5.00            | 70.00                  |
| Homeworks                                                                    |                                                                                                                                      | 1                                    | 14.00           | 14.00                  |
| TERM LEARNING ACTIVITIES                                                     | NOMBER                                                                                                                               | WEIGHT                               |                 |                        |
| Projects                                                                     | 0                                                                                                                                    | 0.00                                 | 0.00            | 0.00                   |
| Field Studies                                                                | 0                                                                                                                                    | 0.00                                 | 0.00            | 0.00                   |
| Midterm exams                                                                | 1                                                                                                                                    | 10.00                                | 10.00           | 10.00                  |
| Others                                                                       | 0                                                                                                                                    | 0.00                                 | 0.00            | 0.00                   |
| Final Exams                                                                  | 1                                                                                                                                    | 30.00                                | 30.00           | 30.00                  |
| Total Work Load                                                              |                                                                                                                                      |                                      |                 | 180.00                 |
| Total work load/30 hr                                                        |                                                                                                                                      |                                      |                 | 6.00                   |
| Contribution of Term (Year) Learning Activities to ECTS Credit of the Course |                                                                                                                                      | 40.00                                |                 | 6.00                   |
| Contribution of Final Exam to Success Grade                                  |                                                                                                                                      | 60.00                                |                 |                        |
| Total                                                                        |                                                                                                                                      | 100.00                               |                 |                        |
| Measurement and Evaluation Techniques Used in the Course                     | Measurement and evaluation are performed according to the Rules & Regulations of Bursa Uludağ University on Undergraduate Education. |                                      |                 |                        |

## 24 ECTS / WORK LOAD TABLE

| 25  | CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |
|-----|---------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
|     | PQ1                                                           | PQ2 | PQ3 | PQ4 | PQ5 | PQ6 | PQ7 | PQ8 | PQ9 | PQ10 | PQ11 | PQ12 | PQ13 | PQ14 | PQ15 | PQ16 |
| ÖK1 | 4                                                             | 2   | 2   | 1   | 2   | 4   | 2   | 2   | 1   | 2    | 3    | 3    | 0    | 0    | 0    | 0    |

|                                                       |            |   |       |   |          |   |        |   |             |   |   |   |   |   |   |   |
|-------------------------------------------------------|------------|---|-------|---|----------|---|--------|---|-------------|---|---|---|---|---|---|---|
| ÖK2                                                   | 4          | 2 | 2     | 1 | 2        | 4 | 2      | 2 | 1           | 2 | 3 | 3 | 0 | 0 | 0 | 0 |
| ÖK3                                                   | 4          | 2 | 2     | 1 | 2        | 4 | 2      | 2 | 1           | 2 | 3 | 3 | 0 | 0 | 0 | 0 |
| ÖK4                                                   | 4          | 2 | 2     | 1 | 2        | 4 | 2      | 2 | 1           | 2 | 3 | 3 | 0 | 0 | 0 | 0 |
| ÖK5                                                   | 4          | 2 | 2     | 1 | 2        | 4 | 2      | 2 | 1           | 2 | 3 | 3 | 0 | 0 | 0 | 0 |
| ÖK6                                                   | 4          | 2 | 2     | 1 | 2        | 4 | 2      | 2 | 1           | 2 | 3 | 3 | 0 | 0 | 0 | 0 |
| ÖK7                                                   | 4          | 2 | 2     | 1 | 2        | 4 | 2      | 2 | 1           | 2 | 3 | 3 | 0 | 0 | 0 | 0 |
| ÖK8                                                   | 4          | 2 | 2     | 1 | 2        | 4 | 2      | 2 | 1           | 2 | 3 | 3 | 0 | 0 | 0 | 0 |
| LO: Learning Objectives    PQ: Program Qualifications |            |   |       |   |          |   |        |   |             |   |   |   |   |   |   |   |
| Contribution Level:                                   | 1 very low |   | 2 low |   | 3 Medium |   | 4 High |   | 5 Very High |   |   |   |   |   |   |   |