**Department of Animal Production**

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| Course | **Dairy Cattle Production (10916308)**  **Dairy cattle production lab (95316)** | |
| Instructor | **Dr. Jihad ABDALLAH** | |
| Contact information | Room 0240, Khadoory Campus  Tel. : 2675893 Ext 16, Email : [jmabdallah@najah.edu](mailto:jmabdallah@najah.edu) | |
| Semester and academic year | Second semester 2016/2017 | |
| Compulsory / Elective | Compulsory course | |
| Prerequisites | 95210 | |
| Course  Contents  (description) | This course highlights the economic importance of milk and its products, pure breeds and dual-purpose breeds of dairy cattle, the characteristics of the dairy animal, the lactation curve, the factors influencing milk production and composition, selection and genetic improvement in dairy cattle. The Course also emphasizes housing systems and the main aspects of the creation, management and running of dairy cattle farms. | |
| Course Objectives | Acquaint the students with the important breeds of dairy cattle, management, raising and housing systems, and the factors affecting milk production and composition | |
| Intended Learning  Outcomes | At the end of this course students should :   1. Recognize the importance of dairy production locally and worldwide. 2. Be familiar with important breeds of dairy cattle 3. Know the structure of the cow’s udder and milk secretion and let down 4. Know the management, production, and housing systems of dairy cattle. 5. Understand reproduction, feeding and ration formulation for dairy cattle 6. Know the factors affecting milk yield and milk composition 7. Recognize the important diseases of dairy cattle and their prevention 8. Recognize genetic improvement tools for dairy cattle and handling of records. | |
| Textbook and References | **Textbook**:  Howard Tyler and M. E. Ensminger Deceased, 2005. Dairy Cattle Science, Prentice Hall; 4th edition | |
| Evaluation of students | **Activity** | **Percent (%)** |
| *Midterm Exams* | 30 |
| *Practical Section* | 30 |
| *Final Exam* | 40 |

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| **Week** | **Subject** |
| 1 | - Syllabus  - Status and trends in dairy production and consumption |
| 2 | - History and description of dairy cattle breeds |
| 3 | - General characteristics of dairy animals  - Dairy type traits  - Judging dairy cattle |
| 4 | - Bovine mammary glands and milk secretion |
| 5+6 | - Milk production and lactation curve  - Factors affecting milk yield and composition |
| 7 | **EXAM 1 (Sunday 26/2/2017)**  - Creation of dairy farms |
| 8-10 | - Estrus cycle and management of reproduction  - pregnancy and parturition |
| 11+12 | - Raising dairy calves from birth to weaning  **EXAM 2 (Sunday 9/4/2017)**  - Raising and feeding heifers from weaning to calving |
| 13+14 | - Dairy cattle housing and equipment |
| 15 | - Important dairy cattle diseases |
| 16 | **FINAL EXAM** |

**Practical Section**

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| **Week** | **Subject** |
|  | - General instructions  - Dairy cattle breeds (Videos) |
|  | - Handling dairy cattle (VIDEOS) |
|  | - Morphological characterization of dairy cattle |
|  | - Judging dairy cattle (VIDEOS + University farm) |
|  | - Milking parlors and milking machines (VIDEOS) |
|  | - Milking dairy cows (University farm) |
|  | - Ration formulation (software) |
|  | - Ration formulation (software) |
|  | - Body condition scoring (VIDEOS + University farm) |
|  | - Calculation of breeding values of bulls and cows (software) |
|  | - Field trip (dairy cattle farm) |
|  | - Sire summaries and use of selection indexes (websites) |
|  | - Measuring growth |
|  | - Milk testing (laboratory) |
|  | **FINAL EXAM** |