

**Department of Food Technology**

**College of Agriculture Engineering Science**

**University of Salahaddin**

**Subject:** **Food Analysis (Practical)**

**Course Book – 4rd Year students**

**Lecturer's name M.Sc. Belan Qader Othman**

**Academic Year: 2022/2023**

**Course Book**

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| **1. Course name** | | Food Analysis | | |
| **2. Lecturer in charge** | | Dr.Bazhdar & Belan Qader Othman | | |
| **3. Department/ College** | | Food Technology / College of AgricultureEngineering Science | | |
| **4. Contact** | | email:belan.othman@ su.edu.krd | | |
| **5. Time (in hours) per week** | | practical: 3 | | |
| **6. Office hours** | | 8:30-11:30&11:30- 2:30 | | |
| **7. Course code** | |  | | |
| **8. Teacher's academic profile** | | I have over nine years of experience in food technology. After MSc. Courses, working as a lecturer at my department and other departments at the subjects of (Food Analysis, Biochemistry, Analytical Chemistry, and Physical chemistry) for introducing students to a practical field in real life by standing co-operation with public and private sectors by visiting factories in Erbil. | | |
| **9. Keywords** | | Food Analysis, Biochemistry | | |
| **10.** **Course Overview:**  Food Analysis, qualitative and quantitative analysis of foods. Instrumentation method of determining. Food adulteration, detection and prevention. Food standards and legislation. Enforcement of quality laws. Codex Alimentarius. | | | | |
| **11. Course objective:**  The general objective of the course is to acquaint the student with the basic roles of Food Science and Technology in providing quality and safe foods.  At the end of the course, the student will be able to:  (1) Define and differentiate between qualitative and quantitative analysis of foods.  (2) Explain the importance of food analysis.  (3) Determination of carbohydrates, protein and lipid in food.  (4) Describe food adulteration, detection and prevention. | | | | |
| 12. **Student's obligation**  The topics of syllabi will be distributed for students, and the students recommended studying all topics in the lectures at home before practical time, and having quiz every week. | | | | |
| 13. **Forms of teaching**  USING WHITE BORD AND DATA SHOW | | | | |
| **14. Assessment scheme**  The students are required to do two closed exams during the course period. All exams have 25% marks; the quiz tests have 5% marks, and the report have 5 % ,. So that the final grade will be based upon the following criteria:  Practical exams: 25%  Quiz tests: 5%  report have 5 %  ‌ | | | | |
| **15. Student learning outcome:**  Students should know the basic principles and have actual practice with the operational techniques of a wide variety of principles of food sciences. | | | | |
| 1**6. Course Reading List and References‌:**  ▪Key references:   * [1] Nielsen, S., *Food Analysis. Fourth.* Springer US, Boston, MA, 2010. **10**: p. 978-1. * [2] * Belitz, H.-D., W. Grosch, and P. Schieberle, *Food chemistry*. 2008: Springer Science & Business Media. | | | | |
| 17. The Topics: | | | Lecturer's name | |
| **Week 1** | Introduction to Food Analysis | | | ex:(6 hrs per week ) |
| **Week 2** | Types of analysis | | |
| **Week 3** | Accuracy and precision | | |
| **Week 4** | Standard Solution | | |
| **Week 5** | The Importance of pH in Food Quality and Production | | |
| **Week 6** | Moisture determination | | |
| **Week 7** | Protein determination | | |
| **Week 8** | Types of Extraction | | |
| **Week 9** | Food additives | | |
| **Week 10** | Fat Determination | | |
| **Week 11** | Fiber Determination | | |  |
| **Week 12** | Methods of Determining Food Quality | | |
| **Week 13** | Food Texture | | |  |
| **Week 14** | Food Color | | |
| **Week 15** | Class Test | | |
| **18. Practical Topics** | | | | (3 hrs) |
| **19. Examinations:**  **Q1: Define the following terms: (35 M)**  **Q1/ Draw the schematic diagram of the spectrophotometer.** Q2/ what are the types of food analysis and the differences between them? **Q3/Prepare 0.2M of HCl if you know { sp. g 13, 77% } of the bottle.**  **(H=1, Cl=35)** Q4/ What are the chemical methods and their bases for mono-, di-, and oligosaccharides? | | | | |
| **20. Extra notes:**  5 MARK STUDENT ACTIVITIES LIKE COUISE TEST REPORT. | | | | |