Course Title: **Food Technology 3 (Meat, Fish and Poultry)**

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| **University** | **Benha** |
| **Faculty** | **Faculty of Agriculture** |
| **COURSE SPECIFICATIONS:** |
| Program of which the course is given | Agricultural Biotechnology program |
| Major or Minor element of Program | Minor |
| Departments offering the Program | Faculty of Agriculture, Benha university |
| Department offering the course | Food technology |
| Academic year / Level | Level 3 second semester |
| Date of specification approval |  |

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| **A- BASIC INFORMATION**  |
| Title  | Food Technology 3 (Meat, Fish and Poultry) |
| Code | FS 0709 |
| Credit Hours  | 3 Hours |
| Lecture | 2 Hours / week |
| Practical | 2 Hours / week  |
| Total: |  Hours |

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| **B- PROFESSIONAL INFORMATION** |
| **1 – OVERALL AIMS OF COURSE** |
| 1. To define the student the problems of meat and poultry production in Egypt and the world.
2. To define the student kinds of meat and poultry.
3. To define the student the quantity ant quality of meat and poultry which suitable for different ages.
4. To determine the chemical composition of meat and poultry.
5. Understanding the effect of different preservation methods of meat and poultry
6. Define the student by special additive on meat and poultry products.
7. Utilization of waste from meat and poultry products.
8. To teach the student to produce any products from meat and poultry
9. Understanding spoilage of meat and poultry and their products.
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| **2 – Intended Learning Outcomes of Course (ILOs)** |
| **A. Knowledge and Understanding:** |
| 1. ***By the end of the course, students should:***
2. Understanding the chemistry of meat and poultry products (i.e. protein, lipids, carbohydrate, minerals, water, enzymes, pigments and flavors.).
3. Understanding the functions of major component of meat and poultry products.
4. Explain the methods for preservation of meat and poultry and their products.
5. Defining the different kinds of meat and poultry products.
6. Design time table for using meat and poultry products in meals .
7. Explain the development of production the meat and poultry products.
8. Explain the methods of sensory evaluation of meat and poultry products.
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| B. Intellectual Skills: |
| ***Successful completion of this course will allow students to:***1. Solving the problems for deficiency of production of meat and poultry.
2. Understanding the chemical and physical properties of meat and poultry.
3. Choose the best cuts for making meat and poultry products.
4. Understanding the change of meat and poultry during manufacturing and storage.
5. Understanding the unit operation and any systems used in plan for producing meat and poultry and their products.
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| C. Professional and Practical Skills: |
| 1. Production of cold, freezing, drying, smoking, and caning meat and poultry cuts.
2. Production of burger, luncheon, sausage, and pasterma of meat and poultry.
3. Demonstrate the ability of chemicals and microbiological analysis and sensory evaluation of meat and poultry products
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| D. General and Transferable Skills: |
| 1. Students should be familiar with working in small groups in the practical classes from which they produce individual reports.
2. They will be able to communicate effectively with a wide range of individuals using a variety of means.
3. Plan and organize their time to ensure that all tasks are completed and deadlines met.
4. Utilize problem solving skills in a variety of theoretical and practical situations.
5. Use computers for communication, data handling and word processing
6. Students should be familiar with writing a case study
7. Use of new technological tools and ICDL.
8. 8) Access to Web sites
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| 3. CONTENTS |
| **Topic** | **No. of hours** | **Lectures** | **Practical** |
| 1. Introduction on importance of meat, fish and dairy as foods, and food microbiology.
 | 6 | 4 | 4 |
| 1. Classification and characterizations of the important microorganisms in milk and its product.
 | 6 | 4 | 4 |
| 1. Pathogens and spoilage bacteria of dairy products.
 | 6 | 4 | 4 |
| 1. Issues of Food safety, food preservation, food production and antimicrobial agents relating meat, fish and dairy products.
 | 6 | 4 | 4 |
| 1. Relationship between biological agents in meat, fish and dairy food and illness.
 | 6 | 4 | 4 |
| 1. Microbiology of fish, meat and fish and relation with spoilage.
 | 6 | 4 | 4 |
| 1. Contamination by microorganisms. Food borne diseases caused by non-spore forming bacteria.
 | 6 | 4 | 4 |

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| 4. TEACHING AND LEARNING METHODS |
| 1. The main subject areas are covered in the lectures (see syllabus Plan).
2. Several student seminar sessions give the opportunity for students to bring questions or discuss any aspects of the course with the tutor.
3. Students are given a topic to research in small groups which they report as an oral presentation. Collective feedback on the strengths and weaknesses of the presentations are provided.
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| 5. STUDENT ASSESSMENT METHODS |
| ***Students will be evaluated by attendance, fulfillment and effort in exercises and presentations, and examination grades:***1) Laboratory work: to assess the ability of students to understand and perform small laboratory experiments.2) Hour examination grades : to assess how progress of the students.3) Term-paper: to assess student ’ability to understand and figure out an article review of specific subject. 4) Mid-Term examination: to assess how difficult or easy of course subjects taken through the first mid-term to understand and realize by students.5) Oral Examination: to assess how student’ ability to discuss a problem and suggest an realized solving.6) Practical/Lab Examination: to assess student’ ability to carry out small experiment, analysis, and discuss the results.7) Final Examination: to assess how much the student gain totally. |

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| 6. ASSESSMENT SCHEDULE |
| No | Assessment | **Week No.** |
| 1 | Periodical exam  | 4, 8, 12 |
| 2 | Practical exam | 13 |
| 3 | Oral exam | 13 |
| 4 | Final exam | 14 |

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| 7. WEIGHTING OF ASSESSMENT |
| No | Assessment | **%** |
| 1 | Periodical exam  | 15% |
| 2 | Practical exam | 15% |
| 3 | Oral exam | 10 % |
| 4 | Final exam | 60 % |
| TOTAL | 100 % |

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| 8. LIST OF REFERENCES |
| 1. **Fotitt, R.J. and Lewis, A.S. 1999**. The canning of fish and meat. Aspen Publ. Inc./ Chapman and Hall,London, UK.

<http://books.google.com.eg/books?id=HnXdPn6D6p8C&printsec=frontcover&dq=The+canning+of+fish+and+meat&hl=en&sa=X&ei=U2npUsrkFuuy7AaYr4HwDw&ved=0CCoQ6AEwAA#v=onepage&q=The%20canning%20of%20fish%20and%20meat&f=false> 1. **Gouffe** [**J.**](http://www.google.com.eg/search?tbo=p&tbm=bks&q=inauthor:%22Jules+Gouffe%22&source=gbs_metadata_r&cad=3) **2011**. Methods for preserving meat and fish. Read Books Design <http://books.google.com.eg/books?id=sqPJX7U3sNkC&dq=Methods+for+preserving+meat+and+fish&hl=en&sa=X&ei=cmnpUpnRL4uv7QbhloHIBQ&ved=0CC8Q6AEwAQ>
2. **Pearson** [**A.M.**](http://www.amazon.com/s/ref%3Dntt_athr_dp_sr_1?_encoding=UTF8&field-author=A.M.%20Pearson&search-alias=books&sort=relevancerank) **and Dutson** [**T.R.**](http://www.amazon.com/s/ref%3Dntt_athr_dp_sr_2?_encoding=UTF8&field-author=T.R.%20Dutson&search-alias=books&sort=relevancerank)  **1997**. Healthy production and processing of meat, poultry and fish products. Advances in Meat Res, Vol. 11, 1st Ed. Springer, London, UK. <http://books.google.com.eg/books?id=diLA6IVcuZEC&printsec=frontcover&dq=Healthy+production+and+processing+of+meat,+poultry+and+fish+products&hl=en&sa=X&ei=iWnpUovpK8aL7AaAqYGACA&ved=0CCoQ6AEwAA>
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| 9. FACILITIES REQUIRED FOR TEACHING AND LEARNING |
| 1. Teaching aids/ materials: e.g. boards – overhead projector – data-show projector – stationary, etc.
2. Teaching room/hall.
3. Computers.
4. Facilities for site visits etc., which are necessary for teaching the course.
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| **Course Coordinators:**  | **Prof. Dr.** **Prof. Dr.**  |
| **Date: / / 2015** |