

Course Syllabi

1. INDU-00041 TERM FOOD PROCESSING

2. Instructors:

- Gonzalo Javier Astudillo Ochoa
- Jaime Estuardo Cuenca Leon

3. Bibliography

- Conservación de alimentos, Desrosier, N., 1971
- Ingeniería de la Industria alimentaria, , Aguado Alonso, 1999
- Ingeniería de la Industria alimentaria , Aguado Alonso, J., 1999
- Ciencia bromatológica, José, B. G., 2000
- La alimentación y la nutrición a través de la historia, Salas-Salvadó, J., García-Lorda, P., & Ripollés, J. M. S. , 2005

4. Specific Course Information

- a. The subject of thermal food processing that is taught within the course of Chemical Engineering, seeks that students acquire the necessary theoretical-practical knowledge regarding the generalities, foundations and bases of thermal treatments for the conservation of food using methods where different temperatures and times are used depending on the product and the useful life time that they want to provide to the food. Other important aspects are the methods for the evaluation of the thermal processing of food and the design of a sterilization process. The contents and learning results of this subject are in full agreement with the graduation profile of the Chemical Engineer in the following aspects: Control experiments and processes in the field of Chemical Engineering, considering transport phenomena, unitary operations, chemical processes, and operational research, to obtain relevant information and meet previous objectives to recognize the value of ancestral knowledge, making it possible to incorporate it into professional practice, to develop new products, to innovate and optimize traditional productive practices. To act with respect and commitment to the environment, applying management practices and technologies, that allow it to minimize the environmental impact generated by productive activities. To act with professional ethics, considering the social and economic impact of its professional exercise, in the fields of regulations related to quality, health and safety and the environment.

b. Prerequisites:

- INDU-00037 Ope III wetting-drying
- SVCS-00036 Community service
- INDU-00036 Op III ionic exchange
- INDU-00024 Biochemistry food

5. Learning Objectives of the Course

- a. Get the student to acquire, develop, assimilate the theoretical foundation necessary to create skills in the methods of the thermal processing of food, as well as to understand details of the control at the industrial level. - Know the basics and characteristics of the methods used for the thermal processing of food - Identify the different techniques for the thermal processing of food - Apply in practice the basic processes for the thermal processing Food - Teach the student to work as a team to share responsibilities, as well as organizing and cooperation strategies.

b. Learning Outcomes

1. Identify and apply different techniques for the thermal processing of food
2. Implements technologies related to the physical and chemical transformation of raw material, effectively, incorporating technological improvements or innovations.
3. Understands and applies the basic processes for the thermal processing of foods

6. Course Topics

1. General
2. Basics of thermal treatments
3. Food conservation bases
4. Design of a sterilization process
5. Methods for the assessment of the thermal processing of food