

## **Suggested research topics**

### **Winter semester of the academic year 2019/2020**

**Course name in Arabic: هندسة الغذاء**

**Course name in English : Food Engineering**

**Professor Dr. : Atef Mohamed Elsbaay**

**Level:..... 1<sup>st</sup> .....**

**Department: Fish processing and Biotechnology**

No.	Research title	Research items
1	Processing systems	1-state of a system 2-types of systems 3-components of systems
2	Engineering properties of matter	1-classification of properties 2-moisture content
3	Thermal properties of food	1-densirt 2-thermal conductivity 3-thermal diffusivity 4-specific heat
4	Conservation of mass	1-general mass balance 2-application of mass balance
5	Energy balance	1-general energy balance 2-application of energy balance
6	Heat transfer in food processing	1-modes of heat transfer 2-application of modes of heat transfer
7	System for heating and cooling food products	1-classification of heat exchangers 2-advantages and disadvantages of heat exchangers 3-application of heat exchanger
8	Design heat exchangers	1-design assumptions 2-tubular heat exchanger 3-appliction of tubular heat exchanger
9	Steady-state heat transfer	1-conductive heat transfer in rectangular slap and tubular pipe 2-heat conduction in multilayered systems
10	Heat and temperature	1-temperature scales 2-types of heat 3-applictiaion of different types of heat

**Course Instructor:**

**Name: Dr. Atef Mohamed Elsbaay**

**Signature:Dr. Atef Mohamed Elsbaay**