

1.	Title of the course	Food Processing Technology
2.	Course number	CH508L
3.	Structure of credits	3-0-0-3
4.	Offered to	PG
5.	New course/modification to	Modification To CH5029/17
6.	To be offered by	Department of Chemical Engineering
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	<b>Course Objective(s):</b> To introduce chemical engineering principles in food processing, and discuss recent developments and their applications in the food industry.	
10.	<b>Course Content:</b> Introduction to food properties and processing; Distillation: molecular distillation, steam distillation; Extractions: supercritical fluid extraction, field assisted extractions using microwave, ultrasonication, electric; Dehydration: drying, spray drying - micro and nano encapsulation, freezing, freeze drying, vacuum frying, convective and vibro-fluidization bed roasting, field assisted drying using microwave, infrared, radio frequency, acoustics; Membrane processes: membrane distillation, osmotic membrane distillation, forward osmosis, hybrid processes; Athermal preservation: high pressure, cold plasma, pulsed electric field, ultrasonication assisted processing technologies, Ohmic heating; Food packaging: biodegradable films, nanoparticle based films, smart packaging, modified or controlled atmospheric packaging.	
11.	<b>Textbook(s):</b> 1. Clarke S, Jung S and Lamsal B, <i>Food Processing: Principles and Applications</i> , 2nd Edition, Wiley Blackwell (2014). 2. Fellows P J, <i>Food Processing Technology: Principles and Practice</i> , 4th Edition, Elsevier Academic Press (2019).	
12.	<b>Reference(s):</b> 1. Jia J, Liu D and Ma H, <i>Advances in Food Processing Technology</i> , 1st Edition, Springer (2019). 2. Sun D-W, <i>Emerging Technologies in Food Processing</i> , 1st Edition, Elsevier Academic Press (2005). 3. Theodoros V and Constantina T, <i>Handbook of Food Processing: Food Technology</i> , 1st Edition, CRC Press (2016).	