University of Pretoria Yearbook 2020

Food engineering 353 (FST 353)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	18.00
Programmes	BSc Food Science
Prerequisites	FST 260 or permission from the HOD.
Contact time	1 practical per week, 3 lectures per week
Language of tuition	Module is presented in English
Department	Consumer and Food Sciences
Period of presentation	Semester 1

Module content

Lectures: Mass and energy balance. Heat transfer theory: Convection, conduction and radiation. Energy for food processing. Fluid flow and rheology. Unit operations: materials handling, cleaning, sorting, grading, peeling, disintegration, separation (e.g. membrane technology), pumping, mixing and forming, heating, concentration, drying, extrusion, refrigeration, freezing. Tutorials/practicals: Calculations on mass and energy balances, psychrometry, refrigeration and freezing. The principles of food engineering, particularly mass and energy balance are applied to provide relevance in addressing the UN Sustainable Development Goals (#3 and 7).