

### **FST 403 Food Process Engineering (2 Units)**

Thermodynamic properties of food materials: enthalpy, entropy, specific heat specific volume, etc. Basic concepts of fluid flows. Open and closed system. Steady and non steady states. Uniform and laminar flows. First and second laws of thermodynamics and their corollaries. Derivation of steady state equation. Modes of heat transfer. Heat exchangers. Pipe design. Power requirements for pumping fluids. Further functions of equipments used in food industry for extraction, leaching distillation, membrane separation, filtration and centrifugation.