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# University of Pretoria Yearbook 2020

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## Food engineering 353 (FST 353)

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| <b>Qualification</b>          | Undergraduate  |
| <b>Faculty</b>                | <a href="#">Faculty of Natural and Agricultural Sciences</a> |
| <b>Module credits</b>         | 18.00  |
| <b>Programmes</b>             | <a href="#">BSc Food Science</a>                             |
| <b>Prerequisites</b>          | FST 260 or permission from the HOD.                          |
| <b>Contact time</b>           | 1 practical per week, 3 lectures per week                    |
| <b>Language of tuition</b>    | Module is presented in English                               |
| <b>Department</b>             | Consumer and Food Sciences                                   |
| <b>Period of presentation</b> | 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).

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