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# University of Pretoria Yearbook 2022

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## BScHons *Food Science* (02240602)

**Department** Consumer and Food Sciences

**Minimum duration of study** 1 year

**Total credits** 135

**NQF level** 08

### Admission requirements

1. BSc (Food Science) (or equivalent) degree
2. A weighted average of at least 60% at final-year level
3. An admission examination may be required
4. Additional work/modules may be required in order to reach the desired level of competency

### Other programme-specific information



## Curriculum: Final year

### Minimum credits: 135

Core credits: 105

Elective credits 30

## Core modules

### Research methodology and seminars 700 (FST 700)

**Module credits** 15.00

**NQF Level** 08

**Prerequisites** No prerequisites.

**Contact time** 1 day seminar in semester 2, 1 workshop of 5 days in semester 1

**Language of tuition** Module is presented in English

**Department** Consumer and Food Sciences

**Period of presentation** Year

#### Module content

Lectures and assignments: Research methodology. Literature study and seminar presentations on topics in Food Science and/or Technology. The candidate must also pass an oral examination at the end of the module.

### Sensory evaluation 712 (FST 712)

**Module credits** 10.00

**NQF Level** 08

**Prerequisites** No prerequisites.

**Contact time** 12 discussion classes, 6 practicals per semester

**Language of tuition** Module is presented in English

**Department** Consumer and Food Sciences

**Period of presentation** Semester 1

#### Module content

Lectures: principles and applications of sensory evaluation. Types of panels, tests and test conditions and their functions. Selection and training of panellists for descriptive sensory evaluation. Instrumental sensory quality measurements. Statistical analysis and interpretation of data.

Practicals: Practical aspects and execution of sensory evaluation techniques, analysis and interpretation of data. Instrumental sensory quality measurements.

### Production development and quality management 713 (FST 713)

**Module credits** 25.00



|                               |  |
|-------------------------------|--|
| <b>NQF Level</b>              | 08   |
| <b>Prerequisites</b>          | No prerequisites.                                |
| <b>Contact time</b>           | 15 discussion classes, 6 practicals per semester |
| <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: principles involved and steps that are followed to develop new food products that are safe, tasty, nutritious and cost effective. Application of the theory of food product development. Quality management systems with specific reference to Good Manufacturing Practices, HACCP and ISO 9000. National and international standards, Codex Alimentarius, FDA. Application of food legislation. Food packaging. Practicals: A product development project will be planned, conducted and presented. Application and implementation of HACCP.

## Advanced food science 720 (FST 720)

|                               |                                |
|-------------------------------|--------------------------------|
| <b>Module credits</b>         | 15.00                          |
| <b>NQF Level</b>              | 08                             |
| <b>Prerequisites</b>          | No prerequisites.              |
| <b>Contact time</b>           | 12 discussion classes          |
| <b>Language of tuition</b>    | Module is presented in English |
| <b>Department</b>             | Consumer and Food Sciences     |
| <b>Period of presentation</b> | Year                           |

### Module content

Discussion classes in advanced level food chemistry, food microbiology, food engineering, food processing and nutrition. Problem solving and literature discussion.

## Research project 763 (FST 763)

|                               |                                |
|-------------------------------|--------------------------------|
| <b>Module credits</b>         | 40.00                          |
| <b>NQF Level</b>              | 08                             |
| <b>Prerequisites</b>          | No prerequisites.              |
| <b>Language of tuition</b>    | Module is presented in English |
| <b>Department</b>             | Consumer and Food Sciences     |
| <b>Period of presentation</b> | Year                           |

### Module content

A short research project on an approved topic in food science and/or technology is planned, executed and presented in the form of a written report.



## Elective modules

### Animal food technologies 701 (FST 701)

|                               |                                     |
|-------------------------------|-------------------------------------|
| <b>Module credits</b>         | 15.00                               |
| <b>NQF Level</b>              | 08                                  |
| <b>Prerequisites</b>          | No prerequisites.                   |
| <b>Contact time</b>           | 30 discussion classes, 9 practicals |
| <b>Language of tuition</b>    | Module is presented in English      |
| <b>Department</b>             | Consumer and Food Sciences          |
| <b>Period of presentation</b> | Year                                |

#### Module content

Dairy technology: The technology of fluid, concentrated, dried, frozen and fermented dairy products and starter cultures. Requirements for milk supply and other ingredients. Principles for the manufacturing of products in this category. Possible defects, causes and prevention.

Practical work: Preparation of condensed milk, custard, ready-to-eat milk-based desserts, flavoured milk beverages, dairy-fruit juice mixtures; ice cream and other frozen desserts; yoghurt and cultured milk products; cheeses. Evaluation and analysis of the products. Effect of processing on the nutritional value of dairy products. Factory visits.

Meat, poultry, fish and egg technology: Meat, poultry, fish and egg processing and equipment. Meat emulsion, curing, dehydration and fermentation technology. Preservation and storage. Packaging. Legislation. Quality control and hygiene. Effect of processing on the nutritional value of meat products.

Practical work: Manufacturing of dried, cured, fermented and emulsion type products. Visits to processing factories.

### Advanced plant food science and technologies 702 (FST 702)

|                               |  |
|-------------------------------|--|
| <b>Module credits</b>         | 15.00  |
| <b>NQF Level</b>              | 08   |
| <b>Prerequisites</b>          | No prerequisites.  |
| <b>Contact time</b>           | 3 practicals S2, 5 discussion classes in semester 2, 5 practicals S1, 8 discussion classes in semester 1 |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Consumer and Food Sciences   |
| <b>Period of presentation</b> | Year   |

#### Module content

Plant food functionality: Starch, non-starch polysaccharides, protein. Advanced rheology and texture. Malting and brewing. Ready-to-eat (RTE) technologies and their impact on functional and nutritional quality. Plant oil processing. Minimal processing of fruits and vegetables. Practical work: Pasting properties of starch; Dough rheology; Isolation of legume and cereal proteins; SDS-PAGE electrophoreses of legume and cereal proteins; Malting and mashing of sorghum and barley male; Extraction of essential oils; Extraction and identification of phenolic compounds; Minimal processing of fruit and vegetables.



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