



# University of Pretoria Yearbook 2021

## BSc Culinary Science (02133320)

**Department** Consumer and Food Sciences

**Minimum duration of study** 4 years

**Total credits** 560

**NQF level** 08

### Admission requirements

- The closing date is an administrative admission guideline for non-selection programmes. Once a non-selection programme is full and has reached the institutional targets, then that programme will be closed for further admissions, irrespective of the closing date. However, if the institutional targets have not been met by the closing date, then that programme will remain open for admissions until the institutional targets are met.
- The following persons will be considered for admission: candidates who are in possession of a certificate that is deemed by the University to be equivalent to the required National Senior Certificate with university endorsement, candidates who are graduates from another tertiary institution or have been granted the status of a graduate of such an institution, and candidates who are graduates of another faculty at the University of Pretoria.
- Life Orientation is excluded from the calculation of the Admission Point Score (APS).
- Grade 11 results are used for the conditional admission of prospective students. Final admission is based on Grade 12 results.
- Please note that the Faculty does not accept GED and School of Tomorrow qualifications for entry into our programmes.

#### **Transferring students**

##### **Candidates previously registered at UP or at another university**

The faculty's Admissions Committee considers applications of candidates who have already completed the final NSC or equivalent qualification examination and/or were previously registered at UP or another university, on grounds of their final NSC or equivalent qualification results as well as academic merit.

##### **Candidates previously registered at a FET college or a university of technology**

The faculty's Admissions Committee considers the application of these candidates on the grounds of their final NSC or equivalent qualification results as well as academic merit.

##### **Qualifications from countries other than South Africa**

- Citizens from countries other than South Africa and South African citizens with foreign qualifications must comply with all the other admission requirements and the prerequisites for subjects/modules.
- In addition to meeting the admission requirements, admission is based on the performance in the **TOEFL, IELTS or SAT**, if required.
- Candidates must have completed the National Senior Certificate with admission to degree studies or a certificate of conditional exemption on the basis of a candidate's foreign qualifications, the so-called "Immigrant" or "Foreign Conditional Exemption". The only condition for the "Foreign Conditional Exemption"



that is accepted is: 'completion of the degree course'. The exemption certificate is obtainable from Universities South Africa (USAf). Detailed information is available on the website at [click here](#).

**University of Pretoria website:** [click here](#)

### Minimum requirements

#### Achievement level

#### English Home

#### Language or

#### English First

#### Additional

#### Language

#### Mathematics

#### Physical Sciences

#### APS

NSC/IEB	AS Level	NSC/IEB	AS Level	NSC/IEB	AS Level	
5	C	5	C	5	C	<b>32</b>

\* Cambridge A level candidates who obtained at least a D in the required subjects, will be considered for admission. Students in the Cambridge system must offer both Physics AND Chemistry with performance at the level specified for NSC Physical Sciences in the table above.

\* International Baccalaureate (IB) HL candidates who obtained at least a 4 in the required subjects, will be considered for admission. Students in the IB system must offer both Physics AND Chemistry with performance at the level specified for NSC Physical Sciences in the table above.

Candidates who do not comply with the minimum admission requirements for BSc (Culinary Science), may be considered for admission to the BSc - Extended programme - Biological and Agricultural Sciences. This programme takes a year longer than the normal programmes to complete.

### BSc Extended Programme for the Biological and Agricultural Sciences

#### Minimum requirements

#### Achievement level

#### English Home

#### Language or

#### English First

#### Additional

#### Language

#### Mathematics

#### Physical Sciences

#### APS

NSC/IEB	AS Level	NSC/IEB	AS Level	NSC/IEB	AS Level	
4	D	4	D	4	D	<b>26</b>

## Other programme-specific information

A student must pass all the minimum prescribed and elective module credits as set out at the end of each year within a programme as well as the total required credits to comply with the particular degree programme. Please refer to the curricula of the respective programmes. At least 144 credits must be obtained at 300-/400-level, or otherwise as indicated by curriculum. The minimum module credits needed to comply with degree requirements is set out at the end of each study programme. Subject to the programmes as indicated a maximum of 150 credits will be recognised at 100-level. A student may, in consultation with the relevant head of department and subject to the permission by the Dean, select or replace prescribed module credits not indicated in BSc three-year study programmes to the equivalent of a maximum of 36 module credits.

It is important that the total number of prescribed module credits is completed during the course of the study

programme. The Dean may, on the recommendation of the relevant head of department, approve deviations in this regard. Subject to the programmes as indicated in the respective curricula, a student may not register for more than 75 module credits per semester at first-year level subject to permission by the Dean. A student may be permitted to register for up to 80 module credits in the first semester during the first year provided that he or she obtained a final mark of no less than 70% for grade 12 Mathematics and achieved an APS of 34 or more in the NSC.

Students who are already in possession of a bachelor's degree, will not receive credit for modules of which the content overlap with modules from the degree that was already conferred. Credits will not be considered for more than half the credits passed previously for an uncompleted degree. No credits at the final-year or 300- and 400-level will be granted.

The Dean may, on the recommendation of the programme manager, approve deviations with regard to the composition of the study programme.

Please note: Where elective modules are not specified, these may be chosen from any modules appearing in the list of modules.

It remains the student's responsibility to ascertain, prior to registration, whether they comply with the prerequisites of the modules they want to register for.

The prerequisites are listed in the Alphabetical list of modules.

## Promotion to next study year

A student will be promoted to the following year of study if he or she passed 100 credits of the prescribed credits for a year of study, unless the Dean on the recommendation of the relevant head of department decides otherwise. A student who does not comply with the requirements for promotion to the following year of study, retains the credit for the modules already passed and may be admitted by the Dean, on recommendation of the relevant head of department, to modules of the following year of study to a maximum of 48 credits, provided that it will fit in with both the lecture and examination timetable.

### **General promotion requirements in the faculty**

All students whose academic progress is not acceptable can be suspended from further studies.

- A student who is excluded from further studies in terms of the stipulations of the abovementioned regulations, will be notified in writing by the Dean or Admissions Committee at the end of the relevant semester.
- A student who has been excluded from further studies may apply in writing to the Admissions Committee of the Faculty of Natural and Agricultural Sciences for re-admission.
- Should the student be re-admitted by the Admissions Committee, strict conditions will be set which the student must comply with in order to proceed with his/her studies.
- Should the student not be re-admitted to further studies by the Admissions Committee, he/she will be informed in writing.
- Students who are not re-admitted by the Admissions Committee have the right to appeal to the Senate Appeals Committee.
- Any decision taken by the Senate Appeals Committee is final.



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## Practical/clinical/internship information

OPI 400 (Experiential training in industry): During the first to fourth years of study, students must complete a total of 480 hours experiential training in the industry to develop practical and occupational skills, participate in community engagement and provide service learning. This is equal to 3 weeks x 40 hours (120 hours) per year, according to requirements as determined by the head of department. These “credits” include evidence of experiential training, service learning and community engagement during the four years of the study programme and must be successfully completed together with a complete portfolio before the degree will be conferred. Please note: Various practical and industry interaction activities support the theoretical component of VDS 414 & VDS 424, VDS 413 and FST 413 and take place after hours to develop practical and industry skills.

## Pass with distinction

A student obtains his or her degree with distinction if a weighted average of at least 75% is obtained in the following modules:

Recipe development and standardisation 413

Consumer aspects of food 417

Food research project 480

Food service management 420

Food science and technology 413



## Curriculum: Year 1

**Minimum credits: 136**

Fundamental = 14 credits

Core = 122 credits

### Fundamental modules

#### Academic information management 111 (AIM 111)

**Module credits** 4.00

**NQF Level** 05

**Service modules**  
Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Economic and Management Sciences  
Faculty of Humanities  
Faculty of Law  
Faculty of Health Sciences  
Faculty of Natural and Agricultural Sciences  
Faculty of Theology and Religion

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

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

**Department** Information Science

**Period of presentation** Semester 1

#### Module content

Find, evaluate, process, manage and present information resources for academic purposes using appropriate technology.

#### Academic information management 121 (AIM 121)

**Module credits** 4.00

**NQF Level** 05

**Service modules**  
Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Economic and Management Sciences  
Faculty of Humanities  
Faculty of Law  
Faculty of Health Sciences  
Faculty of Natural and Agricultural Sciences  
Faculty of Theology and Religion  
Faculty of Veterinary Science

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week



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

**Department** Informatics

**Period of presentation** Semester 2

### Module content

Apply effective search strategies in different technological environments. Demonstrate the ethical and fair use of information resources. Integrate 21st-century communications into the management of academic information.

## Language and study skills 110 (LST 110)

**Module credits** 6.00

**NQF Level** 05

**Service modules** Faculty of Natural and Agricultural Sciences  
Faculty of Veterinary Science

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

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

**Department** Unit for Academic Literacy

**Period of presentation** Semester 1

### Module content

The module aims to equip students with the ability to cope with the reading and writing demands of scientific disciplines.

## Academic orientation 102 (UPO 102)

**Module credits** 0.00

**NQF Level** 00

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

**Department** Natural and Agricultural Sciences Deans Office

**Period of presentation** Year

## Core modules

### Marketing management 120 (BEM 120)

**Module credits** 10.00

**NQF Level** 05

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Humanities  
Faculty of Natural and Agricultural Sciences

**Contact time** 3 lectures per week



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

**Department** Marketing Management

**Period of presentation** Semester 2

### Module content

This module provides an overview of the fundamentals of marketing by considering the exchange process, customer value, marketing research and the development of a marketing plan. It also addresses the marketing mix elements with specific focus on the seven service marketing elements namely the service product, physical evidence, people, process, distribution, pricing and integrated marketing communication.

## Biometry 120 (BME 120)

**Module credits** 16.00

**NQF Level** 05

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Natural and Agricultural Sciences  
Faculty of Veterinary Science

**Prerequisites** At least 4 (50-59%) in Mathematics in the Grade 12 examination, or at least 50% in both Statistics 113, 123

**Contact time** 1 practical per week, 4 lectures per week

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

**Department** Statistics

**Period of presentation** Semester 2

### Module content

Simple statistical analysis: Data collection and analysis: Samples, tabulation, graphical representation, describing location, spread and skewness. Introductory probability and distribution theory. Sampling distributions and the central limit theorem. Statistical inference: Basic principles, estimation and testing in the one- and two-sample cases (parametric and non-parametric). Introduction to experimental design. One- and two-way designs, randomised blocks. Multiple statistical analysis: Bivariate data sets: Curve fitting (linear and non-linear), growth curves. Statistical inference in the simple regression case. Categorical analysis: Testing goodness of fit and contingency tables. Multiple regression and correlation: Fitting and testing of models. Residual analysis. Computer literacy: Use of computer packages in data analysis and report writing.

## General chemistry 117 (CMY 117)

**Module credits** 16.00

**NQF Level** 05

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Health Sciences  
Faculty of Veterinary Science

**Prerequisites** A candidate must have Mathematics for at least 60% and 60% for Physical Sciences.



**Contact time** 1 practical per week, 4 lectures per week

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

**Department** Chemistry

**Period of presentation** Semester 1

### Module content

General introduction to inorganic, analytical and physical chemistry. Atomic structure and periodicity. Molecular structure and chemical bonding using the VSEOR model. Nomenclature of inorganic ions and compounds. Classification of reactions: precipitation, acid-base, redox reactions and gas-forming reactions. Mole concept and stoichiometric calculations concerning chemical formulas and chemical reactions. Principles of reactivity: energy and chemical reactions. Physical behaviour gases, liquids, solids and solutions and the role of intermolecular forces. Rate of reactions: Introduction to chemical kinetics.

## General chemistry 127 (CMY 127)

**Module credits** 16.00

**NQF Level** 05

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Health Sciences  
Faculty of Veterinary Science

**Prerequisites** Natural and Agricultural Sciences students: CMY 117 GS or CMY 154 GS Health Sciences students: none

**Contact time** 1 practical per week, 4 lectures per week

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

**Department** Chemistry

**Period of presentation** Semester 2

### Module content

Theory: General physical-analytical chemistry: Chemical equilibrium, acids and bases, buffers, solubility equilibrium, entropy and free energy, electrochemistry. Organic chemistry: Structure (bonding), nomenclature, isomerism, introductory stereochemistry, introduction to chemical reactions and chemical properties of organic compounds and biological compounds, i.e. carbohydrates and aminoacids. Practical: Molecular structure (model building), synthesis and properties of simple organic compounds.

## Physiology 110 (FSG 110)

**Module credits** 6.00

**NQF Level** 05

**Service modules** Faculty of Humanities  
Faculty of Natural and Agricultural Sciences

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week





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

**Department** Physiology

**Period of presentation** Semester 1

### Module content

Introduction (terminology and anatomical orientation); chemical principles; cytology and histology; neuro-physiology and the senses; haematology and body fluids; cardiovascular system.

## Physiology 120 (FSG 120)

**Module credits** 6.00

**NQF Level** 05

**Service modules** Faculty of Humanities  
Faculty of Natural and Agricultural Sciences

**Prerequisites** FSG 110

**Contact time** 3 lectures per week

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

**Department** Physiology

**Period of presentation** Semester 2

### Module content

Respiratory system; nutrition; digestion and metabolism; kidneys and acid-base equilibrium; endocrinology; reproduction physiology and reproduction; skin and body temperatures.

## Introduction to microbiology 161 (MBY 161)

**Module credits** 8.00

**NQF Level** 05

**Service modules** Faculty of Engineering, Built Environment and Information Technology

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week, fortnightly tutorials

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

**Department** Biochemistry, Genetics and Microbiology

**Period of presentation** Semester 2



## Module content

The module will introduce the student to the field of Microbiology. Basic Microbiological aspects that will be covered include introduction into the diversity of the microbial world (bacteria, archaea, eukaryotic microorganisms and viruses), basic principles of cell structure and function, microbial nutrition and microbial growth and growth control. Applications in Microbiology will be illustrated by specific examples i.e. bioremediation, animal-microbial symbiosis, plant-microbial symbiosis and the use of microorganisms in industrial microbiology. Wastewater treatment, microbial diseases and food will be introduced using specific examples.

## Molecular and cell biology 111 (MLB 111)

**Module credits** 16.00

**NQF Level** 05

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Health Sciences  
Faculty of Veterinary Science

**Prerequisites** A candidate who has passed Mathematics with at least 60% in the Grade 12 examination

**Contact time** 1 practical/tutorial per week, 4 lectures per week

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

**Department** Biochemistry, Genetics and Microbiology

**Period of presentation** Semester 1

## Module content

Introduction to the molecular structure and function of the cell. Basic chemistry of the cell. Structure and composition of prokaryotic and eukaryotic cells. Ultrastructure and function of cellular organelles, membranes and the cytoskeleton. General principles of energy, enzymes and cell metabolism. Selected processes, e.g. glycolysis, respiration and/or photosynthesis. Introduction to molecular genetics: DNA structure and replication, transcription, translation. Cell growth and cell division.

## Basic food preparation 111 (VDS 111)

**Module credits** 6.00

**NQF Level** 05

**Service modules** Faculty of Health Sciences

**Prerequisites** No prerequisites.

**Contact time** 0.5 practical per week, 1 discussion class per week, 1 lecture per week

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

**Department** Consumer and Food Sciences

**Period of presentation** Semester 1



### Module content

Module 1: Basic food preparation and food preparation techniques. Mise en place, weighing and measurement techniques, equipment and terminology as applied in food preparation. History of the foodservice industry and contemporary chefs. Basic food quality control.

Module 2: Food preparation basics of the following: stocks, soups and sauces

### Basic food preparation 121 (VDS 121)

**Module credits** 6.00

**NQF Level** 05

**Service modules** Faculty of Health Sciences

**Prerequisites** VDS 111

**Contact time** 1 lecture per week, 1 practical per week

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

**Department** Consumer and Food Sciences

**Period of presentation** Semester 2

### Module content

Module 1: Principles and practices of food preparation and cooking techniques. Mise en place, weighing and measurement techniques, equipment and terminology as applied in food preparation. Basic food quality control.

Module 2: Food preparation basics of the following: starches and cereals

### Mathematics 134 (WTW 134)

**Module credits** 16.00

**NQF Level** 05

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Veterinary Science

**Prerequisites** 50% for Mathematics in Grade 12

**Contact time** 1 tutorial per week, 4 lectures per week

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

**Department** Mathematics and Applied Mathematics

**Period of presentation** Semester 1



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## Module content

*\*Students will not be credited for more than one of the following modules for their degree: WTW 134, WTW 165, WTW 114, WTW 158. WTW 134 does not lead to admission to Mathematics at 200 level and is intended for students who require Mathematics at 100 level only. WTW 134 is offered as WTW 165 in the second semester only to students who have applied in the first semester of the current year for the approximately 65 MBChB, or the 5-6 BChD places becoming available in the second semester and who were therefore enrolled for MGW 112 in the first semester of the current year.*

Functions, derivatives, interpretation of the derivative, rules of differentiation, applications of differentiation, integration, interpretation of the definite integral, applications of integration. Matrices, solutions of systems of equations. All topics are studied in the context of applications.



## Curriculum: Year 2

Minimum credits: 144

### Core modules

#### Introduction to proteins and enzymes 251 (BCM 251)

<b>Module credits</b>	12.00
<b>NQF Level</b>	06
<b>Service modules</b>	Faculty of Health Sciences
<b>Prerequisites</b>	CMY 117 GS and CMY 127 GS and MLB 111 GS
<b>Contact time</b>	1 tutorial per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Semester 1

#### Module content

Structural and ionic properties of amino acids. Peptides, the peptide bond, primary, secondary, tertiary and quaternary structure of proteins. Interactions that stabilise protein structure, denaturation and renaturation of proteins. Introduction to methods for the purification of proteins, amino acid composition, and sequence determinations. Enzyme kinetics and enzyme inhibition. Allosteric enzymes, regulation of enzyme activity, active centres and mechanisms of enzyme catalysis. Examples of industrial applications of enzymes and in clinical pathology as biomarkers of diseases. Online activities include introduction to practical laboratory techniques and Good Laboratory Practice; techniques for the quantitative and qualitative analysis of biological molecules; enzyme activity measurements; processing and presentation of scientific data.

#### Carbohydrate metabolism 252 (BCM 252)

<b>Module credits</b>	12.00
<b>NQF Level</b>	06
<b>Service modules</b>	Faculty of Education Faculty of Health Sciences
<b>Prerequisites</b>	BCM 251 GS and BCM 257 GS.
<b>Contact time</b>	1 tutorial per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Semester 2



## Module content

Carbohydrate structure and function. Blood glucose measurement in the diagnosis and treatment of diabetes. Bioenergetics and biochemical reaction types. Glycolysis, gluconeogenesis, glycogen metabolism, pentose phosphate pathway, citric acid cycle and electron transport. Total ATP yield from the complete oxidation of glucose. A comparison of cellular respiration and photosynthesis. Online activities include techniques for the study and analysis of metabolic pathways and enzymes; PO ratio of mitochondria, electrophoresis, extraction, solubility and gel permeation techniques; scientific method and design.

## Introductory biochemistry 257 (BCM 257)

<b>Module credits</b>	12.00
<b>NQF Level</b>	06
<b>Prerequisites</b>	CMY 117 GS and CMY 127 GS and MLB 111 GS
<b>Contact time</b>	1 tutorial per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Semester 1

## Module content

Chemical foundations. Weak interactions in aqueous systems. Ionisation of water, weak acids and weak bases. Buffering against pH changes in biological systems. Water as a reactant and function of water. Carbohydrate structure and function. Biochemistry of lipids and membrane structure. Nucleotides and nucleic acids. Other functions of nucleotides: energy carriers, components of enzyme cofactors and chemical messengers. Introduction to metabolism. Bioenergetics and biochemical reaction types. Online activities include introduction to laboratory safety and Good Laboratory Practice; basic biochemical calculations; experimental method design and scientific controls, processing and presentation of scientific data.

## Lipid and nitrogen metabolism 261 (BCM 261)

<b>Module credits</b>	12.00
<b>NQF Level</b>	06
<b>Service modules</b>	Faculty of Health Sciences
<b>Prerequisites</b>	BCM 251 GS and BCM 257 GS.
<b>Contact time</b>	1 tutorial per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Semester 2



## Module content

Biochemistry of lipids, membrane structure, anabolism and catabolism of lipids. Total ATP yield from the complete catabolism of lipids. Electron transport chain and energy production through oxidative phosphorylation. Nitrogen metabolism, amino acid biosynthesis and catabolism. Biosynthesis of neurotransmitters, pigments, hormones and nucleotides from amino acids. Catabolism of purines and pyrimidines. Therapeutic agents directed against nucleotide metabolism. Examples of inborn errors of metabolism of nitrogen containing compounds. The urea cycle, nitrogen excretion. Online activities include training in scientific reading skills; evaluation of a scientific report; techniques for separation analysis and visualisation of biological molecules; hypothesis design and testing, method design and scientific controls.

## Consumer behaviour 212 (BEM 212)

**Module credits** 16.00

**NQF Level** 07

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Humanities  
Faculty of Natural and Agricultural Sciences

**Prerequisites** BEM 120 GS

**Contact time** 3 lectures per week

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

**Department** Marketing Management

**Period of presentation** Semester 1

## Module content

Internal and external influencing factors of consumer behaviour, the consumer's decision process and application fields of consumer behaviour, consumerisms and social responsibility, buying behaviour of consumers in both product and service related industries, consumer psychology and the influence thereof on buying behaviour, psychology of pricing, influencing factors in consumer buying behaviour, the impact of various forms of marketing communication on buying behaviour.

## Principles of food processing and preservation 260 (FST 260)

**Module credits** 12.00

**NQF Level** 06

**Prerequisites** CMY 117, CMY 127, MBY 161, PHY 131 and WTW 134 or WTW 165 or permission from the HOD.

**Contact time** 1 practical per week, 2 lectures per week

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

**Department** Consumer and Food Sciences

**Period of presentation** Semester 1 and Semester 2



## Module content

Lectures: Food preservation technologies: concept of hurdle technology; heat (blanching, pasteurisation and sterilisation); cold (refrigeration and freezing); concentration and dehydration; food irradiation; fermentation; preservatives; new methods of food preservation. Effect of various food preservation technologies on the microbiological (shelf-life and safety issues), sensory and nutritional quality of foods. Practicals: Practical applications of above processes. Physical, chemical and sensory evaluation of processed foods. Assignment: Application of hurdle technology concept to a specific food product.

## Bacteriology 251 (MBY 251)

<b>Module credits</b>	12.00
<b>NQF Level</b>	06
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Prerequisites</b>	MBY 161 GS
<b>Contact time</b>	2 lectures per week, fortnightly practicals
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Semester 1

## Module content

Growth, replication and survival of bacteria, Energy sources, harvesting from light versus oxidation, regulation of catabolic pathways, chemotaxis. Nitrogen metabolism, iron-scavenging. Alternative electron acceptors: denitrification, sulphate reduction, methanogenesis. Bacterial evolution, systematic and genomics. Biodiversity; bacteria occurring in the natural environment (soil, water and air), associated with humans, animals, plants, and those of importance in foods and in the water industry.

## Food microbiology 262 (MBY 262)

<b>Module credits</b>	12.00
<b>NQF Level</b>	06
<b>Prerequisites</b>	MBY 251 GS.
<b>Contact time</b>	1 practical per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Biochemistry, Genetics and Microbiology
<b>Period of presentation</b>	Semester 2

## Module content

Primary sources of microorganisms in food. Factors affecting the growth and survival of microorganisms in food. Microbial quality, spoilage and safety of food. Different organisms involved, their isolation, screening and detection. Conventional approaches, alternative methods rapid methods. Food fermentations: fermentation types, principles and organisms involved.





## Consumer facilitation 222 (VBF 222)

<b>Module credits</b>	8.00
<b>NQF Level</b>	06
<b>Contact time</b>	1 lecture 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 2

### Module content

Consumer decision making (determinants of informed, responsible consumer decisions, complexity of consumer decisions), consumer satisfaction, consumer socialisation (consumer education; development of consumer skills); consumerism (consumer protection) and consumer complaint behaviour. Gender issues in consumer decision-making, expenditure patterns of the diverse South African consumer market and globalisation. The UN sustainable development goals #5 and 12 are addressed in this module and all projects are focused on responsible consumption behaviour.

## Food commodities and preparation 210 (VDS 210)

<b>Module credits</b>	18.00
<b>NQF Level</b>	06
<b>Service modules</b>	Faculty of Health Sciences
<b>Prerequisites</b>	VDS 121
<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

Module 1: The study of different food systems with regard to food preparation. Physical and chemical properties and the influence of the composition in food preparation.

Module 2: Food preparation basics of the following: soups and sauces, fruit and vegetables; salads; frozen desserts; gelatine.

Module 3: Origin and development of food habits; Factors influencing habits and choice; Dynamics of food habits.

Influence of religion on food habits. Food habits of different ethnic groups.

All modules encompass sustainable food preparation practices through the principles of waste management, including the utilising and minimization of food waste and portion control. Sustainability is addressed by the food practices of local ethnic cultures, the ingredients used by these cultures and how to utilise these ingredients and substituting ingredients with local alternatives.

## Food commodities and preparation 221 (VDS 221)

<b>Module credits</b>	18.00
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<b>NQF Level</b>	06
<b>Service modules</b>	Faculty of Health Sciences
<b>Prerequisites</b>	VDS 210
<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 2

### **Module content**

Module 1: The study of different food systems with regard to food preparation. Physical and chemical properties and the influence of the composition in food preparation.

Module 2: Food preparation basics of the following: meat; poultry; fish, legumes, eggs and milk, baked products (whole spectrum); leavening agents.

Module 3: The influence of culture on cuisines. Study of the cuisines of selected African, European and Eastern countries.

All modules encompass sustainable food preparation practices through the principles of waste management, including the utilising and minimization of food waste and portion control. Sustainability is addressed by the food practices of local ethnic cultures, the ingredients used by these cultures and how to utilise these ingredients and substituting ingredients with local alternatives.



## Curriculum: Year 3

Minimum credits: 140

### Core modules

#### Food chemistry 351 (FST 351)

<b>Module credits</b>	18.00
<b>NQF Level</b>	07
<b>Prerequisites</b>	BCM 251 and BCM 252 and BCM 261 and BCM 262 or permission of the HOD.
<b>Contact time</b>	1 practical per week, 2 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 - Chemistry of major food components: Carbohydrates. Proteins. Lipids. Water. Chemical and nutritional aspects of food processing: implications of different processing techniques on the major food components. Functional properties of the major food components. Modification of functional properties of the major food components. Food analysis methodology. Practical work: Food analysis.

#### Food chemistry (2) 352 (FST 352)

<b>Module credits</b>	18.00
<b>NQF Level</b>	07
<b>Prerequisites</b>	BCM 251 and BCM 252 and BCM 261 and BCM 262 or permission from the HOD.
<b>Contact time</b>	1 practical per week, 2 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 - Basic food analysis and chemistry of the minor food components: Basic food analysis, vitamins, minerals, additives, contaminants. Chemical and nutritional aspects of food processing: implications of different processing techniques on minor food components. Functional properties of the minor food components. Food analysis methodology. Practical work: Food analysis.

#### Food service management 321 (VDB 321)

<b>Module credits</b>	18.00
<b>NQF Level</b>	07
<b>Service modules</b>	Faculty of Health Sciences



<b>Prerequisites</b>	Natural and Agricultural Sciences students: VDS 322 #
<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 2

#### Module content

Planning and layout of food service units for different food service systems. Equipment for food services. Factors influencing the choice and purchasing of equipment for different food service units. Hygiene and safety in food services. management in food service systems. Financial management in food services.

### Nutrition (Capita Selecta from HNT 210) 310 (VDG 310)

<b>Module credits</b>	17.00
<b>NQF Level</b>	07
<b>Prerequisites</b>	No prerequisites.
<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

The study of nutrients and water regarding their chemical composition, characteristics, basic digestion, absorption, metabolism, functions, food sources and symptoms of deficiency and toxicity. Energy metabolism. Dietary recommendations and guidelines, dietary guides and meal planning. The use and application of food composition tables in dietary analysis.

### Nutrition (Capita Selecta from HNT 220) 320 (VDG 320)

<b>Module credits</b>	17.00
<b>NQF Level</b>	07
<b>Prerequisites</b>	No prerequisites.
<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 2

#### Module content

The role of nutrition in the life cycle: Prevention of lifestyle related diseases such as osteoporosis, cancer, coronary heart disease, tooth decay. Protein energy malnutrition and obesity.



## Consumer food research 310 (VDS 310)

<b>Module credits</b>	21.00
<b>NQF Level</b>	07
<b>Prerequisites</b>	VDS 221
<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

Planning executing and reporting consumer food research. Food preservation and evaluation techniques. Experiments in food, emphasizing ingredient function and standard preparation methods. Application of experimental methods through which the chemical and physical reactions of food to different food handling, preparation and preservation techniques are illustrated. Quality evaluation and consumer orientated sensory evaluation of food products.

## Large-scale food production and restaurant management 322 (VDS 322)

<b>Module credits</b>	31.00
<b>NQF Level</b>	07
<b>Service modules</b>	Faculty of Health Sciences
<b>Prerequisites</b>	VDS 210 and VDS 221
<b>Contact time</b>	3 lectures per week, 3 practicals 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 2

### Module content

Module 1: Restaurant management. Table setting, table serving, wine service, food and wine pairing, beverage management.

Module 2: Menu planning for different food service systems and styles of food service.

Module 3: Large scale food procurement, consumption and storage.

Practical work: Principles of large-scale food preparation and the practical application thereof in a practical restaurant situation. Recipe formats and adjustment applicable to large-scale food preparation. Work scheduling and the practical exposure to the use of large scale catering equipment in a real life situation.

The UN sustainable development goals #3; 8; 9; 11 and 12 are addressed during the theory components and practical sessions. Projects are focused on identifying not only critical areas of concern but also possible mitigating strategies thus encouraging initiatives to achieve good health and well-being, responsible industry consumption, production community engagement and economic growth.



## Curriculum: Final year

**Minimum credits: 140**

### Additional information:

OPI 400 (Experiential training in industry): During the first to fourth years of study, students must complete a total of 480 hours experiential training in the industry to develop practical and occupational skills, participate in community engagement and provide service learning. This is equal to 3 weeks x 40 hours (120 hours) per year, according to requirements as determined by the head of department. These “credits” include evidence of experiential training, service learning and community engagement during the four years of the study programme and must be successfully completed together with a complete portfolio before the degree will be conferred. Please note: Various practical and industry interaction activities support the theoretical component of VDS 414 & VDS 424, VDS 413 and FST 413 and take place after hours to develop practical and industry skills.

## Core modules

### Sensory evaluation 412 (FST 412)

**Module credits** 10.00

**NQF Level** 08

**Prerequisites** FST 260, FST 351 and FST 352 or permission from the HOD.

**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

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.

### Experiential training in industry 400 (OPI 400)

**Module credits** 5.00

**NQF Level** 08

**Prerequisites** Documentation of work experience as required for years 1-3

**Contact time** 1 practical per week

**Language of tuition** Afrikaans and English are used in one class

**Department** Consumer and Food Sciences

**Period of presentation** Semester 2



## Module content

During the first to fourth years of study students must complete a total of 600 hours experiential training in the industry to develop practical and occupational skills, participate in community engagement and provide service learning. This is equal to 3 weeks x40 hours (120 hours) per year for the first to third year and 6 weeks x 40 hours in the fourth year, including the following:

- event management for Hospitality Management students, according to requirements as determined by the head of department;
- or
- a culinary science project application for Culinary Science students, according to requirements as determined by the head of department.

These 'credits' comprise 50 learning hours and the balance of the hours include work-related experience evidence of experiential training, service learning and community engagement during the four years of the degree programme and must be successfully completed together with a complete portfolio before the degree will be conferred.

Please note: Various practical and industry-interaction activities support the theoretical component of VDS 322, 413, 414, 417, 424, 427 and FST 412 (as applicable to the respective Consumer Science programmes) and take place after hours to develop practical and industry skills.

## Research project 400 (VBR 400)

<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	BEM 314 and Final-year status
<b>Contact time</b>	1 lecture per week, 1 practical per week
<b>Language of tuition</b>	Afrikaans and English are used in one class
<b>Department</b>	Consumer and Food Sciences
<b>Period of presentation</b>	Year

### Module content

Research methodology. Planning, executing and reporting a research project in clothing retail management; food retail management, hospitality management or culinary science.

## Food service management 420 (VDB 420)

<b>Module credits</b>	21.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	VDB 321 GS and ABV 320
<b>Contact time</b>	1 practical per week, 3 lectures per week
<b>Language of tuition</b>	Afrikaans and English are used in one class
<b>Department</b>	Consumer and Food Sciences
<b>Period of presentation</b>	Semester 2



## Module content

The professional food service manager's roles, responsibilities and characteristics. Contemporary leadership and management styles in food service systems. Professionalism and ethics. Advanced food service systems and production management techniques and training facilitation. Marketing of food services.

All lectures and practical discussion sessions focus on the role of food service management in addressing the UN Sustainable Development Goal #12 to promote sustainable consumption and production patterns. The practical components of presenting a workshop and setting up a small business encourages innovation and entrepreneurial growth and sustainability, thereby addressing the UN Sustainable Development Goal #8 to promote full and productive employment and economic growth.

## Recipe development and standardisation 413 (VDS 413)

**Module credits** 30.00

**NQF Level** 08

**Prerequisites** VDS 310 or VDS 322

**Contact time** 2 practicals per week, 3 lectures per week

**Language of tuition** Afrikaans and English are used in one class

**Department** Consumer and Food Sciences

**Period of presentation** Semester 1

## Module content

Recipe development process. Development of appropriate recipes and food products for a given situation. Standardisation of recipes. Food styling and food photography.

The UN sustainable development goals #3; 8; 9; 11 and 12 are addressed during the theory components and practical sessions. Projects are focused on identifying not only critical areas of concern but also possible mitigating strategies thus encouraging innovation to achieve good health and well-being, responsible industry consumption, production community engagement and economic growth.

## Culinary art 414 (VDS 414)

**Module credits** 22.00

**NQF Level** 08

**Prerequisites** VDS 322

**Contact time** 2 lectures per week, 2 practicals per week

**Language of tuition** Afrikaans and English are used in one class

**Department** Consumer and Food Sciences

**Period of presentation** Semester 1

## Module content

Advanced food preparation and presentation techniques. Event planning and banqueting for Hospitality Management students and a culinary science project application for Culinary Science students





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## Culinary art 424 (VDS 424)

<b>Module credits</b>	22.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	VDS 414
<b>Contact time</b>	2 lectures per week, 2 practicals per week
<b>Language of tuition</b>	Afrikaans and English are used in one class
<b>Department</b>	Consumer and Food Sciences
<b>Period of presentation</b>	Semester 2

### Module content

Advanced food preparation and presentation techniques. Event planning and banqueting for Hospitality Management students and a culinary science project application for Culinary Science students.

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The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.