University of Pretoria Yearbook 2021

BSc Human Physiology (02133408)

Department	Physiology
Minimum duration of study	3 years
Total credits	428
NQF level	07

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.
- 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	**32**

* 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 (Human Physiology), may be considered for admission to the BSc – Extended programme -- Biological and Agricultural Sciences. The BSc – Extended programme takes a year longer than the normal programme to complete.

BSc – Extended Programme – 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	**26**

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 a 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 acertain, 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.

Pass with distinction

A student obtains his or her degree with distinction if all prescribed modules at 300-level (or higher) are passed in one academic year with a weighted average of at least 75%, and obtain at least a

subminimum of 65% in each of the relevant modules.

Curriculum: Year 1

Minimum credits: 140

Fundamental modules = 14
Core modules = 128

Additional information:
Students intending to apply for the MBChB, or the BChD places that become available in the second semester, may only enrol for FIL 155(6), MGW 112(6) and MTL 180(12) with the understanding that:

- they obtained an APS of at least 34 and passed grade 12 Mathematics with at least 70%; and
- they may defer doing WTW 134 in the first semester, however, should they not be selected and want to continue with a BSc programme, WTW 165 must be taken in the second semester of the first year.

Please note: ANA modules can only be taken by BSc (Medical Science) students.

Fundamental modules

Academic information management 111 (AIM 111) - Credits: 4.00
Academic information management 121 (AIM 121) - Credits: 4.00
Language and study skills 110 (LST 110) - Credits: 6.00
Academic orientation 102 (UPO 102) - Credits: 0.00

Core modules

Biometry 120 (BME 120) - Credits: 16.00
Plants and society 161 (BOT 161) - Credits: 8.00
General chemistry 117 (CMY 117) - Credits: 16.00
General chemistry 127 (CMY 127) - Credits: 16.00
Introductory genetics 161 (GTS 161) - Credits: 8.00
Introduction to microbiology 161 (MBY 161) - Credits: 8.00
Molecular and cell biology 111 (MLB 111) - Credits: 16.00
Physics for biology students 131 (PHY 131) - Credits: 16.00
Mathematics 134 (WTW 134) - Credits: 16.00
Mathematics 165 (WTW 165) - Credits: 16.00
Animal diversity 161 (ZEN 161) - Credits: 8.00

Curriculum: Year 2

Minimum credits: 144

Core modules = 108
Elective modules = 36

Additional information:
Single major track:

- Students must take BCM 261 as an elective and choose the additional electives from the listed Chemistry, Microbiology, Plant Sciences and Zoology modules.
- It is the student's responsibility to ensure that no clashes will occur between modules as well as that the necessary prerequisites have been met.

Dual major track:

- **Human Physiology and Biochemistry combination:** Students must take BCM 261, MBY 251 and MBY 261.
- **Human Physiology and Genetics combination:** Students must take BCM 261, MBY 251 and MBY 261.
- **Human Physiology and Microbiology combination:** Students must take MBY 251, MBY 261 and MBY 262.
- **Human Physiology and Pharmacology combination:** Students must take BCM 261 and take other 200-level elective modules (24 credits). No 200-level prerequisites for 300-level Pharmacology modules.

Core modules

Introduction to proteins and enzymes 251 (BCM 251) - Credits: 12.00
Carbohydrate metabolism 252 (BCM 252) - Credits: 12.00
Introductory biochemistry 257 (BCM 257) - Credits: 12.00
Introductory and neurophysiology 211 (FLG 211) - Credits: 12.00
Circulatory physiology 212 (FLG 212) - Credits: 12.00
Lung and renal physiology, acid-base balance and temperature 221 (FLG 221) - Credits: 12.00
Digestion, endocrinology and reproductive systems 222 (FLG 222) - Credits: 12.00
Molecular genetics 251 (GTS 251) - Credits: 12.00
Genetic diversity and evolution 261 (GTS 261) - Credits: 12.00

Elective modules

Lipid and nitrogen metabolism 261 (BCM 261) - Credits: 12.00
Plant physiology and biotechnology 261 (BOT 261) - Credits: 12.00
Physical chemistry 282 (CMY 282) - Credits: 12.00
Analytical chemistry 283 (CMY 283) - Credits: 12.00
Organic chemistry 284 (CMY 284) - Credits: 12.00
Inorganic chemistry 285 (CMY 285) - Credits: 12.00
Bacteriology 251 (MBY 251) - Credits: 12.00
Mycology 261 (MBY 261) - Credits: 12.00
Food microbiology 262 (MBY 262) - Credits: 12.00
Invertebrate biology 251 (ZEN 251) - Credits: 12.00
African vertebrates 261 (ZEN 261) - Credits: 12.00

Curriculum: Final year

Minimum credits: 144

Core modules = 72
Elective modules = 72

Additional information:
Single major track:

- Electives in the third year must be chosen from the listed Biochemistry, Chemistry, Genetics, Microbiology, Plant science, Zoology or a combination of Pharmacology and Biochemistry and/or Genetics modules.
- It is the student's responsibility to ensure that no clashes will occur between modules as well as that the necessary prerequisites have been met.
- NOTE: Students interested in pursuing postgraduate studies in occupational health and safety must take FLG 322 Industrial Physiology (18 credits). The balance of their elective credits may be chosen from 300-level modules in Biochemistry or Genetics or a combination of Pharmacology (FAR 381 and 382) and Biochemistry and/or Genetics.
- Any other student interested in the field of occupational health and safety may take FLG 322 as an elective.

Dual major track:

- **Human Physiology and Biochemistry combination:** Students must take BCM 356, BCM 357, BCM 367, BCM 368.
- **Human Physiology and Genetics combination:** Students must take GTS 351, GTS 354, GTS 367, GTS 368.
- **Human Physiology and Microbiology combination:** Students must take MBY 351, MBY 355, MBY 364, MBY 365.
- **Human Physiology and Pharmacology combination:** Students must take FAR 381 and 382 combined with 300-level modules in Biochemistry and/or Genetics to a total of 72 credits.
- NOTE: Students interested in pursuing postgraduate studies in occupational health and safety must also take FLG 322 Industrial Physiology (18 credits). In order to obtain the degree with a dual major in any of the above, the stipulated electives must be taken. Any student interested in the field of occupational health and safety may also take FLG 322 as an elective.

Core modules

Higher neurological functions 327 (FLG 327) - Credits: 18.00
Cellular and developmental physiology 330 (FLG 330) - Credits: 18.00
Exercise and nutrition science 331 (FLG 331) - Credits: 18.00
Applied and pathophysiology 332 (FLG 332) - Credits: 18.00

Elective modules

Macromolecules of life: structure-function and bioinformatics 356 (BCM 356) - Credits: 18.00
Biocatalysis and integration of metabolism 357 (BCM 357) - Credits: 18.00
Cell structure and function 367 (BCM 367) - Credits: 18.00
Molecular basis of disease 368 (BCM 368) - Credits: 18.00
Plant ecophysiology 356 (BOT 356) - Credits: 18.00
Phytomedicine 365 (BOT 365) - Credits: 18.00
Plant genetics and crop biotechnology 361 (BTC 361) - Credits: 18.00
Physical chemistry 382 (CMY 382) - Credits: 18.00
Analytical chemistry 383 (CMY 383) - Credits: 18.00

Organic chemistry 384 (CMY 384) - Credits: 18.00
Inorganic chemistry 385 (CMY 385) - Credits: 18.00
Pharmacology 381 (FAR 381) - Credits: 18.00
Pharmacology 382 (FAR 382) - Credits: 18.00
Industrial physiology 322 (FLG 322) - Credits: 18.00
Eukaryotic gene control and development 351 (GTS 351) - Credits: 18.00
Genome evolution and phylogenetics 354 (GTS 354) - Credits: 18.00
Population and evolutionary genetics 367 (GTS 367) - Credits: 18.00
Genetics in human health 368 (GTS 368) - Credits: 18.00
Virology 351 (MBY 351) - Credits: 18.00
Bacterial genetics 355 (MBY 355) - Credits: 18.00
Genetic manipulation of microbes 364 (MBY 364) - Credits: 18.00
Microbe interactions 365 (MBY 365) - Credits: 18.00
Population ecology 351 (ZEN 351) - Credits: 18.00
Mammalogy 352 (ZEN 352) - Credits: 18.00
Evolutionary physiology 354 (ZEN 354) - Credits: 18.00
Physiological processes 361 (ZEN 361) - Credits: 18.00
Behavioural ecology 363 (ZEN 363) - Credits: 18.00

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.