**4.4 Interdisciplinary BSc programme**

**4.4.1 Stream: Biomedical Mathematical Sciences**

# Please note: The first first-year students for this programme will be registered in 2020. *Specific Admission Requirements*

* Afrikaans or English (Home Language or First Additional Language) – 4
* Mathematics – 6
* Physical Sciences – 4

## Continued Study Possibilities

* This stream leads to an honours programme in Mathematics or Physiological Sciences.
* This stream also leads to a postgraduate diploma in Biomedical Engineering (PGDip Biomedical Eng), which could further lead to a master’s programme (MEngSci) and a PhD (Biomedical Engineering) in the Faculty of Engineering.

**Please note:***on condition that these programmes are accredited by the South African Qualifications Authority (SAQA).* For more information on admission to the honours programme you are considering, please consult the relevant honours programme’s details in the chapter “Postgraduate Programmes” of the relevant Faculty Calendar part.

# 1st year (140 credits) (2020 onward)

## Compulsory Modules

|  |  |
| --- | --- |
| Applied Mathematics  | 144(16)  |
| Biology  | 124(16)  |
| Chemistry  | 124(16, 144(16)  |
| Computer Science  | 114(16), 144(16)  |
| Mathematics  | 114(16), 144(16)  |
| Science in Context  | 178(12)  |

# 2nd year (minimum 133, maximum 144 credits) (2021 onward)

## Compulsory Modules

**(credits = 112)**

|  |  |
| --- | --- |
| Biochemistry  | 214(16), 244(16)  |
| Biometry  | 212(8), 242(8)  |
| Physiology  | 214(16), 244(16)  |
| Mathematics  | 214(16), 244(16)  |

**plus**

## Elective Modules

**(credits = minimum 16, maximum 32)**

Choose one or two modules from the list below.

|  |  |
| --- | --- |
| Applied Mathematics  | 214(16), 244(16)  |
| Computer Science  | 214(16), 244(16)  |
| Mathematics  | 278(32)  |

# 3rd year (128 credits) (2022 onward)

## Compulsory Modules

**(credits = 80)**

|  |  |
| --- | --- |
| Physiology  | 314(16), 334(16), 344(16), 364(16)  |
| Biomathematics  | 374(16)  |
| **plus** *Elective Modules* **credits = 48)** Choose modules to the value of 48 credits from the list below.  |  |
| Applied Mathematics  | 324(16), 354(16)  |
| Mathematics  | 314(16), 324(16), 344(16), 365(16), 378(32)  |

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**4.4.2 Stream: Applied Medicinal Chemistry**

**Please note: The first first-year students for this programme will be registered in 2020**

## Specific Admission Requirements

* Afrikaans or English (Home Language or First Additional Language) – 4
* Mathematics – 6
* Physical Sciences – 4

## Continued Study Possibilities

 • This stream leads to an honours programme in Physiological Sciences or Chemistry.

For more information on admission to the honours programme you are considering, please consult the relevant honours programme’s details in the chapter “Postgraduate Programmes” of this Calendar part.

# 1st year (140 credits) (2020 onward)

## Compulsory Modules

|  |  |
| --- | --- |
| Biology  | 124(16), 154(16)  |
| Chemistry  | 124(16), 144(16)  |
| Mathematics  | 114(16), 144(16)  |
| Physics  | 114(16), 144(16)  |
| Science in Context  | 178(12)  |

# 2nd year (144 credits) (2021 onward)

## Compulsory Modules

|  |  |
| --- | --- |
| Biochemistry  | 214(16), 244(16)  |
| Biometry  | 212(16), 242(16)  |
| Chemistry  | 214(16), 234(16), 254(16), 264(16)  |
| Physiology  | 214(16), 244(16)  |

# 3rd year (128 credits) (2022 onward)

## Compulsory Modules

|  |  |
| --- | --- |
| Botany  | 354(16)  |
| Chemistry  | 314(16), 324(16), 344(16), 364(16)  |
| Patent Law  | 314(16)  |
| Physiology  | 314(16), 364(16)  |

**4.4.3 Stream: Bioinformatics and Computational Biology**

**Please note: The first first-year students for this programme will be registered in 2020**

## Specific Admission Requirements

* Afrikaans or English (Home Language or First Additional Language) – 4
* Mathematics – 6
* Physical Sciences – 4

## Continued Study Possibilities

* This stream leads to an honours programme in Bioinformatics and Computational Biology.
* If applicable elective modules are taken, this stream also leads to honours programmes in Biochemistry, Computer Science, or Genetics.

For more information on admission to the honours programme you are considering, please consult the relevant honours programme’s details in the chapter “Postgraduate Programmes” of this Calendar part.

# 1st year (140 credits) (2020 onward)

## Compulsory Modules

|  |  |
| --- | --- |
| Biology  | 124(16)  |
| Chemistry  | 124(16), 144(16)  |
| Computer Science  | 114(16), 144(16)  |
| Mathematics  | 114(16), 144(16)  |
| Probability Theory and Statistics  | 144(16)  |
| Science in Context  | 178(12)  |

# 2nd year (128 credits) (2021 onward)

## Compulsory Modules

|  |  |
| --- | --- |
| Biochemistry  | 214(16)  |
| Computer Science  | 214(16), 244(16)  |
| Genetics  | 214(16), 244(16)  |
| Mathematical Statistics  | 214(16), 254(16), 246(16)  |

# 3rd year (128 credits) (2022 onward)

## Compulsory Modules

|  |  |
| --- | --- |
| Biochemistry  | 315(16), 345(16)  |
| Bioinformatics  | 312(8), 322(8)  |
| Computer Science  | 334(16), 344(16), 354(16)  |
| Genetics  | 314(16), 344(16)  |