

6.6.3 Division: Computer Science

6.6.3.1 BScHons in Computer Science

Programme Code

18139 – 797 (128)

Programme Description

The minimum credits required are 128.

Specific Admission Requirements

- A bachelor's degree with Computer Science as major, or an equivalent qualification.
- An average final mark of at least 60% for Computer Science 3.
- At least 32 credits at second-year or third-year level in quantitative modules (such as Mathematics, Applied Mathematics, Physics, Mathematical Statistics or Operations Research).

Closing Date for Applications

Apply online at <https://student.sun.ac.za> by 31 October of the previous year and submit all supporting documents where applicable. Late applications can be submitted until 30 November. In exceptional cases, if there are any places available, applications will be considered until the beginning of the academic year.

If you are not an SU student, please note that your application may take longer to process due to the verification of qualifications. Therefore, apply early.

Programme Structure

This programme consists of 6 modules of 16 credits each, as well as a compulsory programming project of 32 credits. At most 2 modules may be taken from related departments with the permission of the Department of Mathematical Sciences (Division Computer Science). Not all modules are necessarily offered each year.

Duration of Programme

The normal duration of the programme is one year, but under exceptional circumstances and at the discretion of the department, it is possible to repeat a module. The programme begins with the start of the academic year.

Programme Content

(credits = 128)

Compulsory Modules

(credits = minimum 32, maximum 64)

Subject Number	Module Code	Credits	Module Name	Semester
63444	771	32	Honours Project in Computer Science	Both

Unless you have completed Computer Science 314 or an equivalent, the following Computer Science module is also compulsory.

Subject Number	Module Code	Credits	Module Name	Semester
64963	714	16	Concurrent Programming I	1

Unless you have completed Computer Science 313 or an equivalent, the following Computer Science module is also compulsory.

Subject Number	Module Code	Credits	Module Name	Semester
14530	711	16	Computer Networks I	1

plus

Elective Modules

(credits = minimum 64, maximum 96)

Choose modules to a minimum value of 64 credits and a maximum value of 96 credits from the list below to reach the required credit total of 128 credits. However, you can also choose modules presented by other departments with the permission of the Computer Science Division in the Department of Mathematical Sciences.

Subject Number	Module Code	Credits	Module Name	Semester
63452	711	16	Automata Theory and Applications	1 or 2
64947	712	16	Advanced Algorithms	1 or 2
64955	713	16	Theoretical Computer Science	1 or 2
63401	715	16	Databases	1 or 2
64971	716	16	Advanced Topics in Computer Science 1	1 or 2
11788	741	16	Machine Learning	1 or 2
14195	742	16	Machine Learning A	1 or 2
64998	742	16	Computer Graphics	1 or 2
65005	743	16	Simulation of Networks	1 or 2
65013	744	16	Concurrent Programming 2	1 or 2
65021	745	16	Software Construction	1 or 2
65048	746	16	Advanced Topics in Computer Science 2	1 or 2
14531	771	16	Principles of Data Science	1 or 2
14533	771	16	Computing and Society	1 or 2
14232	791	16	Artificial Intelligence	1 or 2
62847	792	16	Computer Vision	1 or 2
64572	793	16	Digital Image Processing	1 or 2
13945	794	16	Search and Planning	1 or 2
13944	795	16	Functional Programming	1 or 2
14065	796	16	Software Verification and Analysis	1 or 2
14066	791	16	Space Science Algorithms	1 or 2

Assessment and Examination

All modules make use of flexible assessment and you must achieve a final mark of at least 50% for each module, as well as for the programming project. If you do not pass all modules required for the degree in the first year, you may apply to repeat these modules in the following year.

2. General information on the postgraduate programmes

2.1 BScHons degree

- 2.1.1 The degree BScHons can be awarded to you if you –
- 2.1.1.1 have obtained a bachelor's degree approved by Senate for this purpose and upon written application, were admitted to the BScHons programme; and
 - 2.1.1.2 have been registered as a student at the University for at least one year (after obtaining the bachelor's degree), have passed the prescribed written examination and successfully completed an oral examination.
- 2.1.2 The BScHons programme is taken in one of the majors of the BSc according to the provisions of the BSc programme. Students, who followed a BSc programme that does not lead to a BScHons programme, may be accepted to a BScHons programme provided that the BScHons programme can only begin after an examination in the required subject or subjects was successfully completed.
- 2.1.3 An average final mark of at least 60% in the major or prescribed modules in the final year of study is required for admission to a BScHons programme in the major in question. If you do not comply with this requirement, you may only be accepted to a BScHons programme if a recommendation has been made by the department concerned and with the special approval of the Faculty Committee of the Faculty of Science.
- 2.1.4 Specific provisions concerning BScHons programmes in specific subjects are given under the module content of the applicable subjects.
- 2.1.5 BScHons students are not allowed to take any additional third-year subject that includes practical work in the first year of the BScHons. However, if the BScHons programme concerned does not require practical work, you can, depending on the approval of the Faculty Board, be allowed to take an additional third-year subject.

2.2 MSc degree

- 2.2.1 The MSc degree can be awarded to you if you –
- 2.2.1.1 have obtained an honours degree approved by Senate for this purpose and upon written application, have been admitted to the proposed MSc programme; and
 - 2.2.1.2 have followed an approved programme of research or advanced study of at least one year (after obtaining the BScHons degree) at this University or at any other place approved by Senate; and
 - 2.2.1.3 have submitted a satisfactory thesis or assignment, depending on the requirements of the department concerned, and have completed an oral examination.
- 2.2.2 Specific provisions concerning MSc programmes in specific subjects are given in the module content of the subjects concerned.
- 2.2.3 MSc students are not allowed to take any additional third-year subject that includes practical work in the first year of the MSc. However, if the MSc programme concerned does not require practical work, you can, depending on the approval of the Faculty Board, be allowed to take an additional third-year subject.
- 2.2.4 After three years of full-time MSc studies, you must reapply for continuation of studies.

Please note: For the regulations regarding attendance, examiners, thesis requirements, submission and binding of theses, etcetera, consult the Section "Postgraduate Qualifications" in Part 1 (General Rules) of the University's Yearbook.

2.3 PhD degree

- 2.3.1 The PhD degree can be awarded to you if you –
- 2.3.1.1 have obtained a Master's degree approved by Senate for this purpose, or have achieved a level of competence in a particular field of study that Senate considers suitable for the purpose, and upon written application been accepted by Senate to the PhD programme; and
 - 2.3.1.2 have followed an approved programme of research and possible supplementary study, which may include a period of research at another place approved by Senate, for at least two years

after obtaining the above-mentioned Master's degree or after gaining the above-mentioned level of competence; and

2.3.1.3 have submitted a satisfactory dissertation; and

2.3.1.4 have completed an oral examination.

2.3.2 After four years of full-time PhD studies, you must reapply for continuation of studies.

Please note: For the regulations regarding attendance, examiners, dissertation requirements, submission and binding of dissertations, etcetera, consult the Section "Postgraduate Qualifications" in Part 1 (General Rules) of the University's Yearbook.

2.4 DSc degree

2.4.1 As a candidate for the DSc degree you must –

2.4.1.1 have conducted advanced, original research or creative work, to the satisfaction of the University, in the field of the natural sciences;

2.4.1.2 have submitted original work(s) of a high standard that has already been published, on a central theme, making a substantial contribution of high quality, in the view of Senate, to the enrichment of knowledge in the field of the natural sciences; and

2.4.1.3 have completed an oral examination to the satisfaction of the University.

2.4.2 If you already hold a PhD degree from the Faculty of Science or any other qualification that Senate considers an equivalent, you must –

2.4.2.1 have been registered at this University for the DSc degree for at least one academic year before the degree can be awarded to you and at least five years must have passed after obtaining the PhD degree, or another degree or qualification that is considered to be equally acceptable, before being awarded the DSc degree; and

2.4.2.2 have notified the Registrar in writing of the intention to be a candidate for the degree at least one year before presenting yourself for the degree and provided the title(s) and scope of the proposed work(s). Once Senate accepts the application, a supervisor and examiners will be appointed.

2.4.3 If you hold an MSc degree from the Faculty of Science or any other qualification that the Senate considers an equivalent, you must –

2.4.3.1 have been registered at this University for the DSc degree for at least three academic years before the degree can be awarded to you and at least seven years must have passed after obtaining the MSc degree, or another degree that is considered an equivalent, before being awarded the DSc degree; and

2.4.3.2 have notified the Registrar in writing of the intention to be a candidate for the degree at least three years before presenting yourself as a candidate and provided the title(s) and scope of the proposed work(s). Once Senate accepts the application, a supervisor and examiners will be appointed.

2.4.4 You must submit one copy of the work(s) that you want to present per examiner before 1 September (if you want to graduate in December), or before 1 December of the previous year (if you want to graduate in March) at the University office. The copies must be accompanied by a written statement that it is your original work and that the work has not been submitted to this or any other university for the purpose of obtaining any degree. If a substantial part of the submitted work was published under your name and that of another author, you must submit satisfactory testimony detailing which part of the work was done by you. Furthermore, you must mention who started the work, under whose supervision the work was done, who did the work, processed and submitted it to paper, and, if applicable, what part of the work was submitted to any university for the purposes of obtaining a degree.

Disclaimer:

The content above comes from the 2024 Science Yearbook. Make sure to consult the full *Science* to see this extract in context and to check if there have been any changes. Take special note of additional information in the yearbook under section *2. General provisions for postgraduate programmes.*