HANDBOOK

Academic Year - 2019/2020

Faculty of Science
University of Colombo

DISCLAIMER

This handbook has been compiled with information received up to December 2019.
It is hereby notified that this handbook is only for general information and is not for official purposes. Any information contained herein should be confirmed by reference to the relevant authority.

Vision

The Faculty of Science
to be a center of
scientific and technological excellence
nationally and internationally.

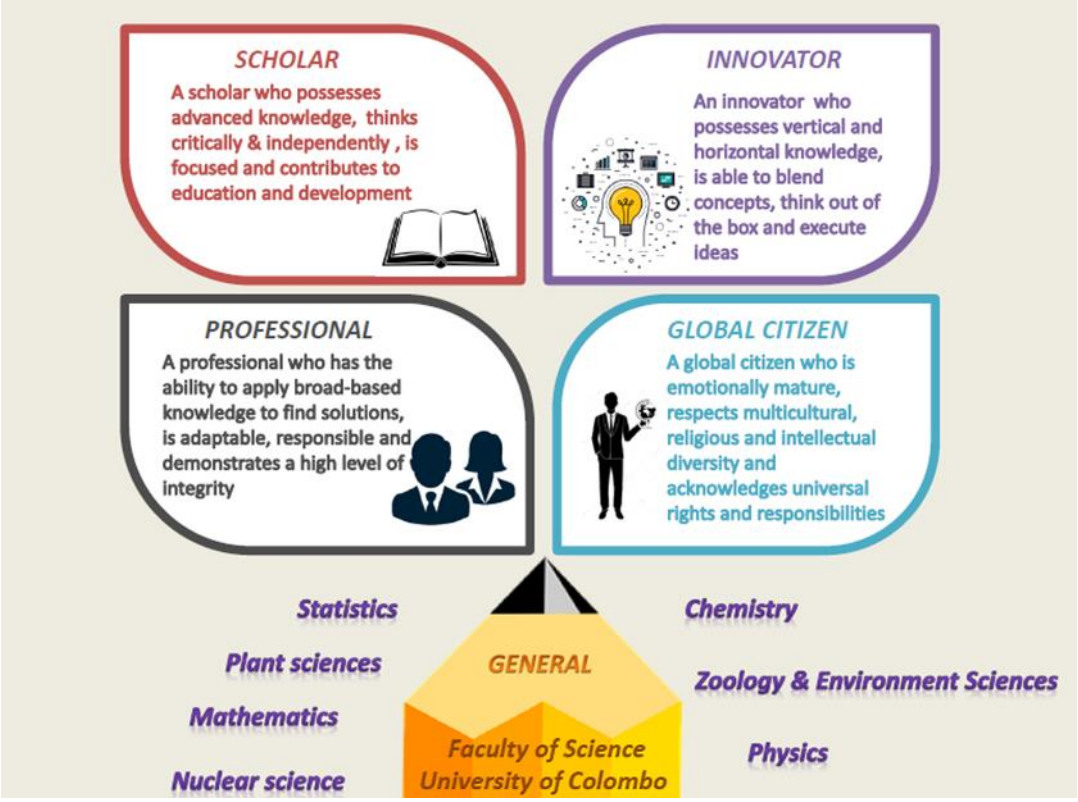
Mission

To develop honest, adaptable productive citizens;
with multidisciplinary knowledge,
creative thinking & analytical skills;
with a high degree of civic consciousness.

To articulate and promote interaction
with public and private sector;
and society at large,
with the view to contributing towards
the development of the nation.

To institute mechanisms
for partnership programmes
for improving resources and infrastructure facilities.

THE GRADUATE PROFILES AND INTENDED LEARNING OUTCOMES OF THE FACULTY OF SCIENCE



BSc DEGREE PROGRAMME

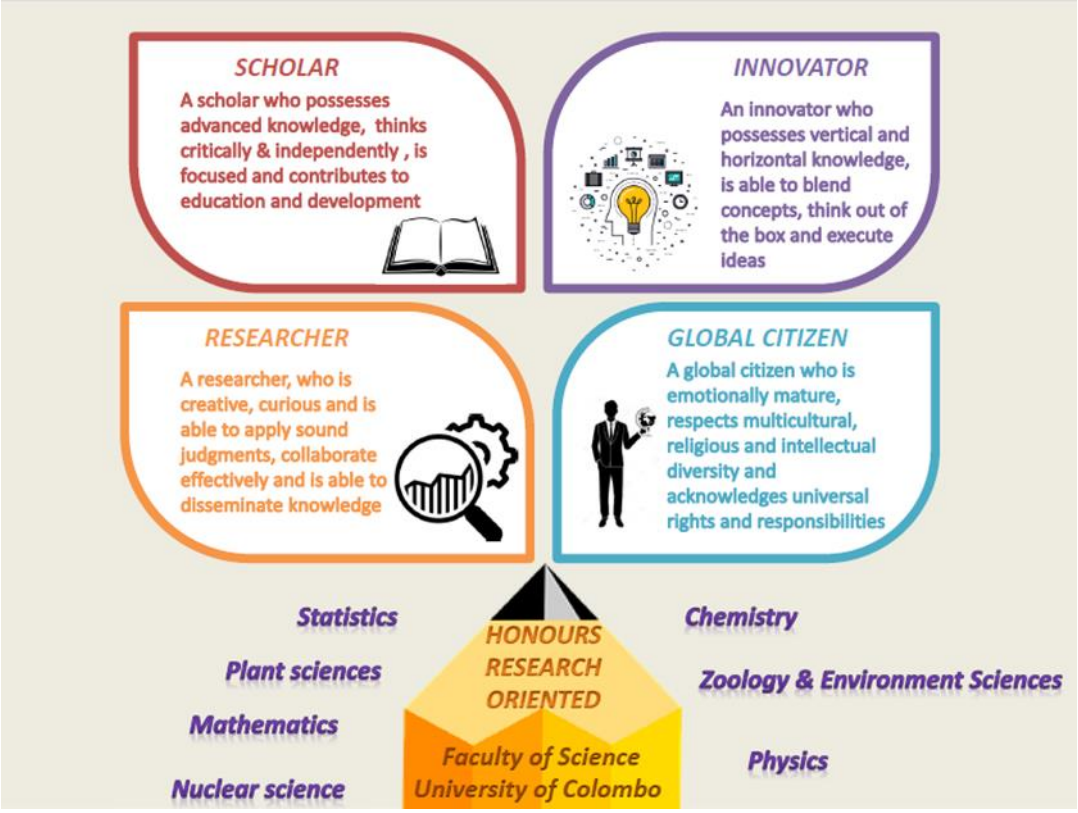
Introduction

The objective of the BSc Degree Programme (03-year duration) is to produce graduates with a broad knowledge in theory, practice and methodology of disciplines that enable them to bear responsibility in a professional environment.

Intended Learning Outcomes

At the end of the 03 years (SLQF Level 5) BSc Degree holders should be able to:

1. demonstrate broad conceptual understanding in the fields of study.
2. apply practical skills across a wide range of disciplines
3. effectively communicate & disseminate knowledge, information and ideas to specialist and a wider society
4. develop attitudes and skills required for employment and life-long learning
5. practice professionalism and uphold ethical standards
6. function independently as well as interdependently
7. demonstrate leadership skills
8. express emotional and intellectual maturity in a global setting



BSc HONOURS (RESEARCH ORIENTATION) DEGREE PROGRAMME

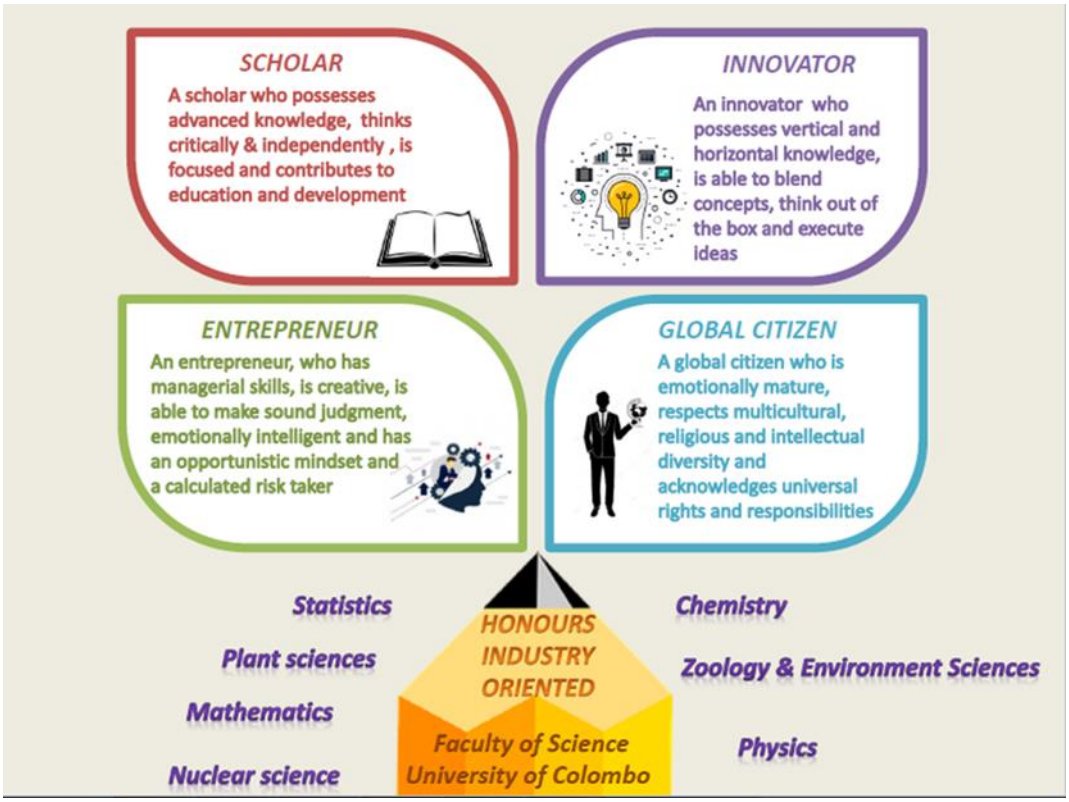
Introduction

Objective of the BSc Honours (Research Orientation) Degree Programme is to produce graduates with knowledge, practice and methodology that enable them to obtain appropriate academic status/qualification and develop their research capacity and skills.

Intended Learning Outcomes

At the end of the 04 years (SLQF Level 6) BSc Honours (Research Orientation) holders should be able to:

1. demonstrate thorough and systematic understanding of advanced concepts in the field of study.
2. demonstrate practical skills in the field and related disciplines, through the use of established techniques and development of new techniques
3. develop hypotheses, construct and sustain arguments in the context of research and investigation
4. eloquently communicate & disseminate knowledge, information and ideas to specialist and non-specialist audiences
5. practice professionalism and uphold ethical standards
6. function independently as well as interdependently
7. demonstrate leadership skills
8. express emotional and intellectual maturity in a global setting
9. prepared to carry out independent and further learning



BSc HONOURS (INDUSTRIAL ORIENTATION) DEGREE PROGRAMME

Introduction

Objective of the BSc Honours (Industrial Orientation) Degree Programme is to produce graduates with knowledge, practice and methodology that enable them to obtain appropriate entrepreneur status/qualification and develop their industrial based research capacity and skills.

Intended Learning Outcomes

At the end of the 04 years (SLQF Level 6) BSc Honours (Industrial Orientation) holders should be able to:

1. demonstrate thorough and systematic understanding of advanced concepts in the field of study.
2. demonstrate practical skills in the field and related disciplines, through the use of established techniques and development of new techniques
3. demonstrate creativity through innovation
4. effectively communicate information and ideas to a wider audience
5. recognize and act on opportunities
6. practice professionalism and uphold ethical standards
7. function independently as well as interdependently
8. demonstrate leadership skills
9. express emotional and intellectual maturity in a global setting

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INTRODUCTION TO THE FACULTY OF SCIENCE

A Brief History

The Faculty of Science was formed with the founding of the University College, Colombo in 1913. The Ceylon University College was formally declared open in 1921 in the present location in Cumarathunga Munidasa Mawatha, in the iconic building (which now houses the Mathematics Department) that was originally the main building of Royal College, Colombo. The University College became the University of Ceylon in 1942 with only four Faculties; Medicine, Science, Arts and Oriental Studies. Although a section of the University was moved to Peradeniya in 1949, the Faculty of Science continued to remain in Colombo. In 1967, the Faculty, became a part of the University of Ceylon, Colombo Campus. In 1972, the University was re-named as University of Sri Lanka, Colombo Campus. Finally, in 1978, the Colombo Campus became an independent University with autonomous status and came to be identified by its present name, University of Colombo, Sri Lanka. Therefore, the Faculty of Science traces its origins to the very beginning of modern higher education in Sri Lanka and is the oldest Science Faculty in the entire University System.

The Present Faculty

Presently the Faculty of Science has a student population of approximately 2000 undergraduates with an annual intake of about 500 students. The Faculty also has about 250 postgraduate students, 130 academic staff members and 90 non-academic staff members.

The Faculty consists of seven Departments of study, namely, Chemistry, Mathematics, Nuclear Science, Physics, Plant Sciences, Statistics and Zoology & Environment Sciences. The Faculty conducts study programmes leading to the BSc degree (03-year duration), BSc Honours degree (04-year duration) and BSc degree (external, 03-year duration). A comprehensive range of subject combinations are available in the BSc degree and BSc Honours degree programmes.

The Faculty of Science conducts several postgraduate study programmes leading to the Postgraduate Diploma and Master of Science degree. The Faculty also plays a very active role in research. There are many research students reading for M.Phil. and Ph.D. degrees. Through the research programmes, the Faculty and the Departments have established strong links with both Sri Lankan and foreign research organizations and have received many national and international research awards. The academic members of the Faculty also play a prominent role in national development. Many members act as resource persons, consultants and board members in government and non-government organizations.

Students of the Faculty have many advantages. These include the lively metropolitan location, a wide variety of campus clubs & societies and good facilities for sports. Further, the Faculty provides a conducive learning environment. The Faculty enjoys an enviable reputation for maintaining high academic and ethical standards, both within and outside the country. The graduates of the Faculty readily find employment as well as postgraduate opportunities in leading universities world-wide.

Future Outlook

The ambitious infrastructure development plan of the Faculty includes new buildings for the Department of Statistics, a Information and Learning Center, and a Student Service Center with numerous facilities. The

Faculty plans to add extensions to the Department of Zoology & Environment Sciences and the Department of Plant Sciences Further, renovations to historical buildings are carried out to enable their restoration and preservation as heritage sites, as well as utilization of these premises for current purposes. The academic programmes and curricular are revised periodically in order to incorporate the most recent advances in Science, and new programmes are introduced to meet the current trends and demands of society. Thus, a student entering the Faculty of Science can aspire to be a fully-fledged graduate and a well-rounded human being, who is ready to take up a leading role in society and contribute to human progress through his/ her knowledge, skills and positive attitudes.

Message to Students

You are welcome to the Faculty of Science of the University of Colombo. Please read this handbook carefully and be aware of the rules and regulations governing academic life as well as the opportunities available to you in the Faculty. For further information about academic matters or other facilities available, you may contact the Dean, Deputy Registrar of the Faculty, Heads of Departments, Director of Undergraduate Studies, Academic Advisors, Student Counselors and/or Academic Mentors

UNIVERSITY ADMINISTRATION

Chancellor

Most Rev. Dr. Oswald Gomis

Archbishop Emeritus of Colombo.

Vice Chancellor

Senior Professor Chandrika N Wijeyaratne

MBBS (Colombo),DM (Colombo), MD (Colombo),
FRCP (London)

Dean Faculty of Science

Senior Professor K.R.R. Mahanama

BSc. (Colombo), M.A., M.Phil., Ph.D. (CUNY)

Librarian

Dr. K.G.P.G. Wijetunge

BA. (Hons.), (Philosophy) (Peradeniya)
Dip.Lib.Inf.Sc (Colombo)
M.Lib (Wales) PhD (Colombo) MIS (Canberra)
ASLLA, FSLLA

Senior Assistant Librarian/Science

Ms. H.M.D.S.D. Somaratna

BSc. (Colombo), PGDip (Bus.Mgt.)
MLIS (Colombo)

Registrar

Mr. K.A.S. Edward

B.A. (Econ.) (Peradeniya),
M.A. (Econ.) (Colombo), MBA (Keelle,UK)

Deputy Registrar / Science

Ms. Vajira Hapuhinna Jayaratne

BA (Hons) (Delhi)
PGDip (Bus.Mgt) (Colombo)
MBA (Colombo)

Bursar

Ms. K.S.T. Swarnalatha Jayasooriya

A.C.A.

Senior Assistant Bursar / Science

Ms. P.L.C. Fernando

BSc. Business Administration
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011 256 868?

THE UNDERGRADUATE STUDY PROGRAMMES - A BRIEF OVERVIEW

The Faculty of Science admits students to several study programmes in the fields of Biological Sciences, Physical Sciences, Biochemistry & Molecular Biology and Industrial Statistics & Mathematical Finance. The study programmes are conducted by the seven academic Departments of the Faculty, University of Colombo School of Computing (UCSC) and where necessary with experts from outside the University. The study programmes lead to either a BSc Degree (03-year duration) or two types of BSc Honours degrees (04-year duration), namely, BSc Honours degree with research orientation and BSc Honours degree with industrial orientation.

The courses offered in the first two years provide the basic knowledge required in various subjects. All students who enter the Faculty will follow such basic courses in their respective subjects during the first two years. At the end of the second year, students have the opportunity to enroll in one of 21 BSc Honours degree programmes with research orientation or in any one of 09 BSc Honours degree programmes with industrial orientation, provided the eligibility and selection criteria are satisfied. The students who do not wish to pursue a BSc Honours degree (or are not eligible to do so) will follow the 03-year degree programme.

THE STRUCTURE OF ACADEMIC PROGRAMMES

Academic Calendar & Academic Year

The academic programme of the Faculty of Science is based on a Semester system with two semesters per year. Each semester is of 15-weeks duration. Each semester runs through 15 calendar weeks, usually with a one week break in mid-semester. The year plan is scheduled so that minimum disturbance occurs due to festivals and holidays. The general scheme of the year plan is given below.

Semester 1	Semester 2
First half (08 weeks)	First half (08 weeks)
Mid semester break (01 week)	Mid semester break (01 week)
Second half (07 weeks)	Second half (07 weeks)
Study leave (01 week)	Study leave (01 week)
Examinations (04 weeks)	Examinations (04 weeks)
Vacation (03 weeks)	Vacation (07 weeks)

The academic programmes conducted by the Faculty of Science are organized into four Levels; Level I, Level II, Level III and Level IV, which represent the first year, second year, third year and fourth year of study respectively

Study Streams

The students enter the Faculty of Science through four different study streams or intakes, namely;

- Biological Sciences
- Physical Sciences
- Biochemistry & Molecular Biology
- Industrial Statistics & Mathematical Finance

Main Subjects

Academic courses offered by the seven academic Departments of the Faculty come under 14 main subjects. Each main subject is identified by a two-letter code. The subjects offered and the letter codes assigned to each subject are given below.

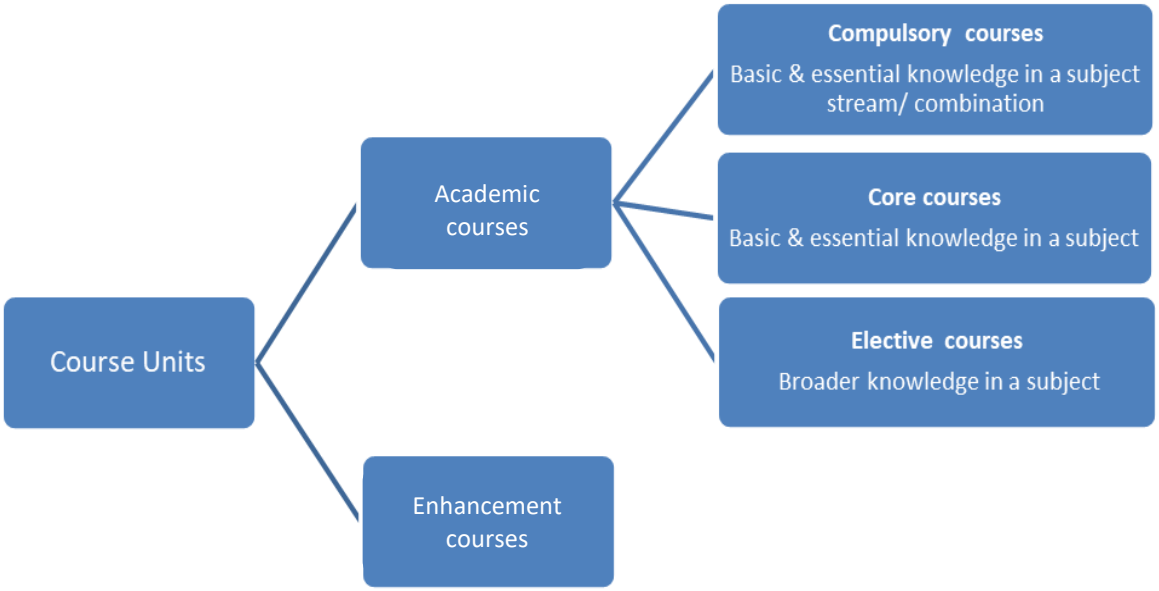
Academic Department	Main Subjects (Letter Codes)
Chemistry	Chemistry (CH) Biochemistry (BC) Molecular Biology (MB)
Mathematics	Applied Mathematics (AM) Pure Mathematics (PM) Financial Mathematics (FM) Management Science (MS)
Nuclear Science	Nuclear Science (NS)
Physics	Physics (PH)
Plant Sciences	Plant Science (BT)
Statistics	Statistics (ST) Industrial Statistics (IS) Management Science (MS)
Zoology & Environmental Sciences	Zoology (ZL) Environmental Science (EN)

In addition, Computer Science (CS) is offered as a subject to all students in the Faculty through the UCSC. In Levels III and IV, Information Technology (IT) is offered by the Faculty in collaboration with industry. The Courses coordinated by the Faculty are identified by the code FS.

Course Units

The academic programmes in the Faculty operate on a “course unit” and a “credit” rating system. Each main subject provides a number of course units in each year of the degree programme. A course unit is a subject module and has an assigned credit value based on the volume of learning. That is, one credit is equal to 15 hours of lectures or 30 hours of practicals (laboratory classes) or a proportionate combination of lectures and practicals. The minimum and the maximum credit value of a course may vary from 01 to 08 credits.

The course units are identified as either academic or enhancement courses. The academic courses deal with subject knowledge and skills pertaining to the main subjects. Enhancement courses provide opportunities for students to improve their soft skills and participate in extra-curricular activities. Academic courses are further divided as compulsory courses or core courses that provide fundamental knowledge of a subject and elective courses that cover a wider scope of the subject.



Compulsory courses provide the essential knowledge necessary to build the foundation of any given subject combination (study stream) and are stream-specific. Students in a given study stream must offer all courses specified as such in Levels I & II.

Core courses also provide basic knowledge in a particular subject. These may be compulsory or elective according to the requirements of a given study stream.

Elective courses are offered in addition to compulsory and core courses to provide broader knowledge on different subjects. Students may select from a basket of such courses in order to make up the required number of credits.

Enhancement courses (EC) are courses that provide knowledge on a wide range of disciplines as well as soft skills that are required in today's society. Enrollment in enhancement courses will enable students to improve their inherent skills and gain competencies in activities of their liking. At present, the Faculty of Science offers several enhancement courses. Details on EC courses are given in Annex 22 & 23.

Course Codes

Each course is identified by its unique course code comprising two letters followed by a 4-digit number. The two letters refer to the main subject to which the course belongs (i.e. BT = Plant Science, CH = Chemistry). The first digit refers to the Level of the course.

- 1000 range courses are Level I courses
- 2000 range courses are Level II courses
- 3000 range courses are Level III courses
- 4000 range courses are Level IV courses

Course Credit Requirements

The degree is determined upon the completion of a prescribed number of credits from the subject courses and enhancement courses offered in the three or four academic years.

In each Level (academic year) a student must register for courses totaling a minimum of 30 academic credits (a maximum of 33 credits), usually from three main subjects. For a student to be considered as having studied a particular main subject for his/her degree, he/she should have completed a minimum of 06 core credits in that subject at each Level of the academic programme. To complete the 03-year degree, a minimum of 90 academic credits (maximum 99 credits) are required. To complete the 04-year degrees, a minimum of 120 academic credits (maximum 132 credits) are required. Further, students must complete at least 04 credits from enhancement courses during their study programme in order to graduate.

Medium of Instruction

All lectures, practicals and examinations pertaining to the courses in the degree programmes are conducted in the English medium.

Time Limit to Complete the Degree Programme

The students must complete their degree programmes within the specified number of semesters. The maximum period allowed to complete both 03-year and 04-year degrees is 12 semesters (06 academic years) from the date of first registration.

DEGREE PROGRAMMES

Degree Programmes and Title of the Degree

The Faculty offers its students three undergraduate degree programmes, namely;

- BSc degree programme (03-year duration)
- BSc Honours degree programme (04-year duration with research orientation)
- BSc Honours degree programme (04-year duration with industrial orientation)

The 03-year study programme leads to the degree of **Bachelor of Science (BSc).**

The 04-year study programmes lead to the degree of **Bachelor of Science Honours (BScHons).**

BSc Degree Programme (03-year duration)

The BSc. degree programme is designed for students who wish to complete the degree in three years and enter into the job market. This programme can be followed under four specific study streams; namely, Biological Science, Physical Science, Biochemistry & Molecular Biology and Industrial Statistics & Mathematical Finance. Students who have studied in a particular stream in the first two Levels of their academic programme must continue in the same stream in Level III. Students who are in this programme have the opportunity to undertake Internship Training or Service Learning in Level III (final year), provided they satisfy the selection criteria.

BSc Honours degree programme (04-year duration with research orientation)

Students will be selected to follow a 04-year BSc Honours degree programme with research orientation, based on the results of the first two Levels. The programme is designed to enhance research skills in students as well as to help them develop independent thinking & decision-making, encourage creativity & life-long learning while providing students with a thorough background on subject matter that is necessary for further learning at post-graduate level. Thus, students who register for the 04-year BSc Honours degree programmes are required to conduct a research project in Level IV (final year). The research project will be a comprehensive in-depth study on a selected topic in a particular subject area.

Although the programmes are designed mainly for students who wish to pursue a career in academia and/or engage in a research career, students in these programmes will be multi-faceted individuals who will be able to fit into many different career paths and not necessarily be restricted to careers in academia or research.

At present, the Faculty offers 21 BSc Honours degree programmes with research orientation.

BSc Honours Degree Programme (04-year duration with industrial orientation)

The 04-year BSc Honours degree programme with industrial orientation is designed for students who wish to pursue a career in industry. The programme is focused on developing skills that are necessary to secure employment or for entrepreneurship. Students in the BSc Honours degree programme with industrial orientation are also required to carry out a research project in Level IV (final year). The research project may deal with industry-related research problems. The programme also provides in-depth knowledge in thematic academic areas for those students who may decide to pursue postgraduate studies in specialized fields. Furthermore, students in the BSc Honours degree programmes with industrial orientation are required to undergo industrial training in the final year.

At present, the Faculty provides 09 BSc Honours degree programmes with industrial orientation.

Note: More details on courses pertaining to various study streams and degree programmes are given in the section on Registration for Courses.

REGISTRATION FOR COURSES

Levels I & II

Biological Science Stream and Biochemistry & Molecular Biology Stream

All students in the Biological Science and Biochemistry & Molecular Biology streams shall offer core courses (a minimum of 06-07 core credits) from the three main subjects; Plant Sciences (BT), Chemistry (CH) and Zoology (ZL) as given in Annexes 4 & 5. Students, if they wish, may consider Computer Science (CS) or Nuclear Science (NS) as a fourth main subject, in which case they have to register for a minimum of 06 core credits from that subject. (Note: Both CS and NS cannot be selected as main subjects together). Furthermore, all courses marked "compulsory" as given in Annexes 4 & 5 must also be taken. To make up the required minimum of 30 academic credits (maximum 33) per year, students can register for elective courses of their choice. It is also necessary to register for enhancement courses that add up to the required number of enhancement credits (Annexes 22 & 23).

Physical Science Stream

Physical Science students are expected to select one of the 06 subject combinations (P1 – P6) given below. Each subject combination consists of three main subjects from a pool of five subjects; Applied Mathematics (AM), Chemistry (CH), Physics (PH), Pure Mathematics (PM) and Statistics (ST). In addition, Computer Science (CS) may be considered as a main subject for the subject combinations P1 – P6. Nuclear Science (NS) may also be considered as a main subject for the subject combinations P1 – P5. Students must choose a subject combination, and a minimum of 06 core/ compulsory credits from at least three main subjects within that combination as specified in Annexes 1 & 2. (Note: Both CS and NS cannot be selected as main subjects together).

Subject combination	Main subjects
P1	Applied Mathematics, Physics, Chemistry, Computer Science / Nuclear Science
P2	Applied Mathematics, Physics, Statistics, Computer Science / Nuclear Science
P3	Applied Mathematics, Pure Mathematics, Physics, Computer Science / Nuclear Science
P4	Applied Mathematics, Chemistry, Statistics, Computer Science / Nuclear Science
P5	Applied Mathematics, Pure Mathematics, Chemistry, Computer Science / Nuclear Science
P6	Applied Mathematics, Pure Mathematics, Statistics, Computer Science

To make up the required minimum 30 academic credits (maximum 33), students can select courses from within or outside their subject combination, provided it is permitted by the time table, space availability and other degree requirements. It is also necessary to register for enhancement courses that add up to the required number of enhancement credits (Annexes 22 & 23).

Industrial Statistics & Mathematical Finance Stream

Industrial Statistics & Mathematical Finance students shall offer Industrial Statistics, Financial Mathematics and Management Science as their main subjects. Computer Science is also available as an additional (fourth) subject. Students should register for a minimum of 06 core credits from each main subject and to make up the required minimum of 30 academic credits (maximum 33) per year, students should register for elective courses as given in Annexes 8 & 9. It is also necessary to register for enhancement courses that add up to the required number of enhancement credits (Annexes 22 & 23).

Level III (BSc Degree Programme, 03-year duration)

Biological Science and Physical Science Streams

Students who follow the 03-year BSc degree programme are required to register for at least 06 core credits from each of **two main subjects** of the three they followed in Levels I & II. To make up the required minimum of 30 academic credits (maximum 33), the remaining credits can be selected from any subject, provided time and space are available. In addition, students have the opportunity (provided the selection criteria are satisfied), to select **either** Internship Training **or** Service Learning in the sixth (final) semester of their degree programme. More information is given under the Career Guidance Unit on page 84.

Biochemistry & Molecular Biology and Industrial Statistics & Mathematical Finance Streams

Students in the two study streams, Biochemistry & Molecular Biology and Industrial Statistics & Mathematical Finance, must follow in Level III, the specified core courses given for their streams in Annexes 7 and 10 respectively. To make up the required minimum of 30 academic credits (maximum 33) per year, students should select and register for elective courses from those given in the respective Annexes. In addition, students have the opportunity (provided the selection criteria are satisfied), to select **either** Internship Training **or** Service Learning in the sixth (final) semester of their degree programme. More information is given under the Career Guidance Unit on page 84.

The BSc degree programme (03–year duration) will span a total of **six semesters** with 90-99 academic credits and at least 04 enhancement credits.

Levels III & IV (BSc Honours Degree Programmes, 04-year duration)

Students following the BSc Honours degree programme (research orientation) will be required to follow in Levels III & IV, the specified courses given under the relevant BSc Honours degree programme, including a research project. To make up the required minimum of 30 academic credits (maximum 33) per year, students should also register for elective courses from those given in the respective Annexes. (Annexes 11 – 20).

Students following the BSc Honours degree programme (industrial orientation) will be required to follow in Levels III & IV, the prescribed core courses of the specific programme including a research project and industrial training. They should also register for elective courses from that programme to make up the minimum 30 academic credit (maximum 33) per year requirement (Annex 21).

The 04-year BSc Honours degree programmes will span a total of eight **semesters** with 120-132 academic credits and at least 04 enhancement credits

Course Registration Period

Registration for courses for the **entire academic year** commences **one week prior to the start of the first semester** and continues during the first two weeks of this semester. Selection of courses must be done very carefully as students will not be permitted to change their courses once the period of registration is over.

Note: Elective courses with less than five registered students may not be conducted. This condition applies only to courses in the 03-year BSc degree programme. Students who have registered for such courses are permitted to register for other available courses during the registration period. **No changes in courses are permitted after the registration period.**

Mode of Registration

Registration for courses is done online through the Student Information System (SIS) of the Faculty of Science (http://sis.cmb.ac.lk/sci/). Students may visit the IT Unit of the Faculty for assistance if required.

The Add-Drop Period

During the first two weeks of the second semester students are given an opportunity to revise their course registrations for the second semester. During this time, they can add/drop a limited number of courses to/from the list that they have submitted at the beginning of the academic year. **However, students are not allowed to change subject combinations or drop compulsory courses.** Changes are only allowed on condition that the students maintain the prescribed number of main subjects and compulsory & core courses.

Attendance in Class

Students are strongly advised to attend all lectures and practical classes of all courses that they have registered for. For practical courses or courses with a practical component which are evaluated through a practical examination, a **minimum of 80% attendance at practical classes** and sitting the final practical examination are required to obtain a C grade or better in that course. Practical courses that are evaluated

through continuous assessment require a minimum of 80% attendance at practical classes to obtain a C grade or better.

Students in the 04-year degree programmes must have 80% attendance in all lectures and practical classes. Students who do not fulfill this requirement shall not be allowed to sit the corresponding final examination/ assessment that year and will have to sit the final examination/assessment in the following year as repeat candidates after having fulfilled the attendance requirement.

Very Important

Although students are permitted to register for more than 30 academic course credits per year (up to 33) this option has to be used very cautiously as the performance in all the registered courses will be taken into consideration when determining the final result. Students will not be permitted to drop any course once the period of registration is over.

Students are also advised to register for the pre-requisites (if any) specified in their study programmes and to pay attention to the requirements of the eligibility criteria for BSc Honours degree programmes.

Some public institutions may not recognize a particular subject/discipline as part of a graduate's BSc degree programme (03-year duration), unless he/she has completed **a minimum of 24 credits** in that discipline over Levels I, II and III. Students interested in keeping open the option of employment in the public sector (secondary education, banks, government ministries and institutions etc.) or in pursuing postgraduate education in a particular field, should take sufficient electives in their main subjects in order to meet this requirement.

Students are expected to obtain advice from Faculty appointed Academic Advisors if they have any queries regarding their study programmes.

EVALUATION PROCEDURE

Grading System for Academic Courses

Academic courses may be evaluated by theory/practical examinations (mid semester, end of semester or continuous), assignments, reports, presentations and oral examinations or a combination of any of the above. The method of evaluation of courses will be announced by the relevant academic Departments at the beginning of each semester.

Unless otherwise approved by the Faculty Board, marks obtained for the academic courses are graded according to the standard grading scheme given below. For each course for which a student sits an examination, a final grade will be assigned. Each grade carries a **Grade Point Value (GPV)** as specified in the table below. The academic transcript of a student includes the grades obtained for all the courses taken by him/her together with their respective credit ratings but not the actual marks.

Marks range	Grade	Grade Point Value (GPV)	Attainment
85 – 100	A+	4.00	
70 – 84	A	4.00	Superior
65 – 69	A-	3.70	
60 – 64	B+	3.30	
55 – 59	B	3.00	Meritorious
50 – 54	B-	2.70	
45 – 49	C+	2.30	
40 – 44	C	2.00	Adequate
35 – 39	C-	1.70	
30 – 34	D+	1.30	
25 – 29	D	1.00	Minimal
00 – 24	E	0.00	Failure

When calculating the **Grade Point Average (GPA)**, all courses are weighted according to their corresponding credit values. GPA is computed to the second decimal place. Grades of all registered academic courses in a study programme are taken into account when calculating the GPA, except the grade earned for the industrial training component in the 04-year BSc Honours degree programme with industrial orientation. The non-GPA credits of the industrial training component, however, will count towards the total number of credits earned by a student.

Completion of a Course

Students must participate in and complete all the assessment procedures for each course for which he/she has registered and obtain **a final grade for it to be considered as complete**.

If the student is absent for the final examination of a course, **AB** (Absent) shall be assigned instead of a grade. If a student does not complete any or all assessment procedures of a course and has not repeated them

thereafter, the course shall be considered as incomplete, and **NC** (Not Complete) shall be assigned. This shall be changed to the "earned" grade once the student has completed the course.

Minimum Academic Achievement to Progress to the Next Level

A student should obtain **C grades or better aggregating to a minimum of 15 academic credits** per year in Levels I, II and III, to move to the next Level. If a student fails to obtain this minimum achievement, he/she will not be permitted to register for courses in the next Level until this requirement has been fulfilled.

Grading System for Enhancement Courses

Enhancement courses carry only a letter grade as specified below and do not carry a Grade Point Value. For non-sports courses the range of marks corresponding to various letter grades are given in the table below. For courses associated with various sports, the corresponding descriptors will be used.

Marks range/ Descriptor	Letter grade	Attainment
70 – 100 **Exceptional performance including participation at national level**	**H**	Honours
55 – 69 **Above-average performance including participation at inter-university level**	**M**	Meritorious
40 – 54 **Minimum level of acceptable achievement or participation**	**S**	Satisfactory
0 – 39 **Unacceptable level of achievement or participation**	**U**	Unsatisfactory
Withdrawal	**W**	

For the 03-year and 04-year degree programmes a student is required to obtain a grade of S or better **for a minimum of four credits from enhancement courses** in order to complete the requirements of the degree.

Details of enhancement courses are given in Annexes 22 & 23.

EXAMINATIONS

All examinations are conducted and completed within a given semester except courses having practical or research projects. No theory course in the 03-year BSc degree programme is conducted over two semesters.

The duration of the end of semester theory examinations vary from one hour (for one credit courses) to a maximum of three hours (for courses of three or more credits). The academic Departments decide the duration of practical and oral examinations.

The results of all examinations are released usually within two months of completion of examinations.

Repeating Examinations

A student obtaining a grade below C may re-sit the course examination for the purpose of improving the grade. The grades obtained in the first and subsequent attempts shall all be listed in the academic transcript. The highest grade obtained is used for the calculation of the final GPA. However, the highest grade considered for the determination of award of a class, as well as for the determination of eligibility for the BSc Honours degree programmes, is a C.

Important Rules

1) A student shall be considered to have sat the first scheduled examination irrespective of whether he/she has actually sat or not, unless he/she has been prevented from sitting the examination due to illness or any other reasonable cause, which must be accepted as valid by the Faculty Board.
2) A student who fails to complete any course in the first attempt shall be eligible to repeat it in two more attempts only. In counting the number of attempts, (1) above shall also be taken into account.

Students should be aware that they can re-sit an examination only within the time limit specified to complete the degree programme (**maximum of 06 academic years**). Therefore, students are strongly advised to obtain good grades from the very beginning of their study programmes.

Medical Certificates

If a student has been prevented from sitting an examination due to illness, the student should submit a Medical Certificate (MC) to the Chief Medical Officer/University Medical Officer, within the stipulated period of time. Students are strongly advised to read the University guidelines for submission of MCs, since a MC can be rejected if specific requirements are not fulfilled. See pages 81 - 83 for details.

In the event that the medical certificate is accepted as valid, the student may sit the examination subsequently without a penalty, and the earned grade shall appear in the transcript. If a student fails to submit a valid medical certificate on being absent for an examination, it shall be recorded as “AB” in the transcript and subsequent attempts shall be considered as repeat attempts.

Examination Offenses

Examination offenses fall into any of the following misconducts that may be committed by students during the conduct of an examination.

- Possession of unauthorized documents and/or devices
- Removal of examination stationary from the examination hall
- Copying
- Obtaining or attempting to obtain improper assistance
- Cheating or attempting to cheat
- Impersonation
- Disorderly conduct
- Aiding and abetting the commission of any of the above offenses

When submitting reports/dissertations which will be evaluated (e.g., research projects, laboratory or field reports) committing **plagiarism** is considered a serious offense, equivalent to an examination offense. Plagiarism is:

- Submitting another person's work as your own
- Including another person's work (language, ideas, results, data, graphics, images etc.) in your submissions without proper acknowledgement or citation
- Copying another person's paragraphs or sentences into your work without any changes, even when the sources are cited
- In cases where it is necessary to quote (copy word to word) a sentence or two of someone else's language, failure to put such sentences within quotation marks

Any candidate who is found guilty of an examination offense or plagiarism is liable to any one or more of the following punishments:

- Removal of his/her name from the pass list
- Cancellation of his/her candidacy from the whole or part of the examination
- Suspension from any University examination for such period as the Senate may decide, or indefinitely
- Suspension from the University for such period as the Senate may decide, or **expulsion** from the University

SELECTION FOR HONOURS DEGREE PROGRAMMES

BSc Honours Degree with Research Orientation

At present, 21 BSc Honours degree programmes with research orientation are offered in various disciplines. Each programme consists of taught courses and an independent research project in a selected area of the subject. The 21 programmes and their availability to students from different study streams are given below.

BSc Honours degree programme	Availability to study streams
Applied Mathematics	Physical Science
Biochemistry & Molecular Biology	Biological Science / Biochemistry & Molecular Biology
Bioinformatics	Biological Science
Chemistry	Biological Science / Physical Science / Biochemistry & Molecular Biology
Computational Chemistry	Biological Science / Physical Science
Computational Physics	Physical Science
Computational Mathematics	Physical Science
Engineering Physics	Physical Science
Environmental Science	Biological Science
Immunology & Integrative Molecular Biology	Biological Science
Industrial Statistics	Industrial Statistics & Mathematical Finance
Mathematical Finance	Industrial Statistics & Mathematical Finance
Mathematics	Physical Science/ Industrial Statistics & Mathematical Finance
Nuclear Medical Science	Biological Science / Physical Science
Pharmacy	Biological Science
Physics	Physical Science
Plant Biotechnology	Biological Science
Plant Science	Biological Science
Statistics with Computer Science	Physical Science
Statistics	Physical Science
Zoology	Biological Science

Eligibility for BSc Honours degree programme with research orientation

There is only one entry point to the 04-year BSc Honours degree programme with research orientation, which is after completion of Level II. Students wishing to apply to these programmes must fulfill the following basic eligibility criterion **together with further requirements for selection, specified under each programme (given on pages** 20-23)

Basic eligibility criterion: A minimum GPA of 2.00 at the end of Level II for **all** registered academic courses.

How to apply

The list of students who are eligible to follow the 04-year BSc Honours degree programme with research orientation will be displayed after completion of Level II. A student on the eligibility list may apply (on the prescribed application form), to a programme of his/her choice. If more than one programme is selected by a student, then he/she must indicate the order of preference on the application form. The application form must be submitted to the Dean's Office of the Faculty by the stipulated deadline.

Selection to a programme and registration for courses

Some programmes may restrict the number of student admissions due to resource limitation. In such cases the selection will be based on the total weighted mark obtained for the relevant academic courses in Levels I and II. Students will be notified of their acceptance to a programme in due course (within the first week of the new Semester). Students will then register in the SIS for the courses prescribed for that specific programme (See Annexes 11 – 20).

Specific criteria for BSc Honours degree programmes with research orientation

BSc Honours degree programmes with research orientation that are currently available are given below with specific eligibility/selection criteria and student intake for each specific programme. Course descriptions pertaining to different programmes are given in Annexes 11 - 20.

Biochemistry & Molecular Biology

Student Intake: 24

Coordinating Department: Chemistry

Eligibility: GPA of 3.00 for CH core courses and a minimum C grade each for CH 2013, CH 2014, BT 1011 and AM 1008.

Selection: Total weighted mark obtained for CH core and compulsory courses.

Chemistry

Student Intake: 24

Coordinating Department: Chemistry

Eligibility: GPA of 3.00 for CH core courses and a minimum C grade for AM 1008 for those who are not offering AM core courses at Levels I and II.

Selection: Total weighted mark obtained for CH core courses.

Computational Chemistry

Student Intake: 10

Coordinating Department: Chemistry

Eligibility: GPA of 3.00 for CH core courses and a minimum C grade each for CS 1101, CS 2002 and also for AM 1008 for those who are not offering AM core courses at Levels I and II.

Selection: Total weighted mark obtained for CH core courses.

Pharmacy

Student Intake: 12

Coordinating Department: Chemistry

Eligibility: GPA of 3.00 for CH core courses and a minimum C grade each for ZL 2010 and AM 1008.

Selection: Total weighted mark obtained for CH core courses.

Physics

Student Intake: 10

Coordinating Department: Physics

Eligibility: GPA of 3.00 for PH and AM core courses.

Selection: Total weighted mark obtained for PH core courses.

Computational Physics

Student Intake: 10

Coordinating Department: Physics

Eligibility: GPA of 3.00 for each PH, AM and CS core courses.

Selection: Total weighted mark obtained for PH and CS core courses.

Engineering Physics

Student Intake: 10

Coordinating Department: Physics

Eligibility: GPA of 3.00 for PH and AM core courses and a minimum B grade each for PH 1021, PH 2021.

Selection: Total weighted mark obtained for PH core courses.

Mathematics

Student Intake (Physical Science): 10

Coordinating Department: Mathematics

Eligibility: GPA of 3.30 for AM core courses and AM 1012 taken together and GPA of 3.30 for PM core courses.

Selection: Total weighted mark obtained for PM core courses.

Student Intake (IS & FM): 03

Coordinating Department: Mathematics

Eligibility: GPA of 3.70 for PM core courses offered to IS and FM intake and GPA of 3.30 for FM core courses.

Selection: Total weighted mark obtained for PM core courses.

Applied Mathematics

Student Intake (Physical Science): 10

Coordinating Department: Mathematics

Eligibility: GPA of 3.30 for AM core courses and AM 1012 taken together and GPA of 3.30 for PM core courses.

Selection: Total weighted mark obtained for AM and PM core courses and AM 1012 taken together.

Computational Mathematics

Student Intake (Physical Science): 10

Coordinating Department: Mathematics

Eligibility: GPA of 3.30 for all AM core courses.

Selection: Total weighted mark obtained for AM courses.

Mathematical Finance

Student Intake (IS & FM): 12

Coordinating Department: Mathematics

Eligibility: GPA of 3.30 for PM and MS (offered by Department of Mathematics) core courses and GPA of 3.30 for all FM courses.

Selection: Total weighted mark obtained for FM and PM courses taken together.

Nuclear Medical Science

Student Intake: 06

Coordinating Department: Nuclear Science

Eligibility: GPA of 3.00 for NS core courses.

Selection: Total weighted mark obtained for NS core courses.

Statistics

Student Intake: 15

Coordinating Department: Statistics

Eligibility: GPA of 3.70 for ST core courses and GPA of 3.30 for AM core courses.

Selection: Total weighted mark obtained for ST core courses.

Statistics with Computer Science

Student Intake: 10

Coordinating Department: Statistics

Eligibility: GPA of 3.70 for each of ST and CS core courses and GPA of 3.30 for AM core courses.

Selection: Total weighted mark obtained for ST and CS core courses taken together.

Industrial Statistics

Student Intake: 12

Coordinating Department: Statistics

Eligibility: GPA of 3.70 for IS and ST core courses and GPA of 2.70 for PM 1013 and PM 2011.

Selection: Total weighted mark obtained for IS and ST core courses.

Plant Biotechnology

Student Intake: 15

Coordinating Department: Plant Sciences

Eligibility: GPA of 3.00 for BT core courses.

Selection: Total weighted mark obtained for BT core courses.

Plant Science

Student Intake: 08

Coordinating Department: Plant Sciences

Eligibility: GPA of 3.00 for BT core courses.

Selection: Total weighted mark obtained for BT core courses.

Bioinformatics

Student Intake: 08

Coordinating Department: Plant Sciences

Eligibility: GPA of 3.00 for BT core courses and combined GPA of 3.00 for CS 1101, CS 1102 and CS 2001 and a minimum C grade for AM 1008.

Selection: Total weighted mark obtained for BT core courses and CS courses.

Zoology

Student Intake: 10

Coordinating Department: Zoology and Environmental Sciences

Eligibility: GPA of 3.00 for ZL core courses.

Selection: Total weighted mark obtained for ZL core courses.

Environment Science

Student Intake: 10

Coordinating Department: Zoology and Environmental Sciences

Eligibility: GPA of 3.00 for EN 1008 and EN 2008 and GPA of 2.70 for core courses either of ZL, BT or CH.

Selection: Total weighted mark obtained for EN 1008 and EN 2008.

Immunology & Integrative Molecular Biology

Student Intake: 10

Coordinating Department: Zoology and Environmental Sciences

Eligibility: GPA of 3.00 for ZL core courses and GPA of 2.70 for BT 1011, CH 1012 and CH 2013.

Selection: Total weighted mark obtained for ZL core courses and BT 1011, CH 1012 and CH 2013.

BSc Honours Degree with Industrial Orientation

At present 09 BSc Honours degree programmes with industrial orientation are offered in various disciplines. Each programme consists of taught courses, a research project and an industrial training component relevant to a particular discipline. In addition, some programmes may offer courses relevant to industry, such as management and accounting.

Eligibility for BSc Honours degree programme with industrial orientation

There is only one entry point to the 04-year BSc Honours degree programme with industrial orientation, which is after completion of Level II. Students wishing to apply to these programmes must fulfill the following basic eligibility criterion.

Eligibility: A minimum GPA of 2.50 at the end of Level II for **all** registered academic courses

How to apply

The list of students who are eligible to follow the 04-year BSc Honours degree programme with industrial orientation will be displayed after completion of Level II. A student on the eligibility list may apply (on the prescribed application form), to a programme/s of his/her choice. If more than one programme is selected by a student, then he/she must indicate the order of preference on the application form. The application form must be submitted to the Dean's Office of the faculty by the stipulated deadline.

Selection to a programme and registration for courses

Some programmes may restrict the number of student admissions due to resource limitation. In such cases the selection will be based on the total weighted mark obtained for **all** academic courses registered in Levels I and II. The students will be notified of their acceptance to a programme in due course (within the first week of the new Semester). Students will then registering the SIS for the courses prescribed for that specific programme (See Annex 21).

Brief description of BSc Honours degree programmes with industrial orientation

BSc Honours Degree programmes with industrial orientation that are currently available are given below with a brief description on each specific programme. Course descriptions pertaining to different programmes are given in Annex 21.

Information Technology

Student Intake (Physical science, IS & FM, Biological Science): 20

Coordinating Unit: ITU

This programme takes an integrated approach to provide students with a broad knowledge in Information Technology with Industrial oriented experience. The programme was designed with the help of experts from industry.

Eligibility: A minimum GPA of 2.50 at the end level II for all registered courses including CS core courses.

Electronics & Information Technology

Student Intake: 20

Coordinating Department: Physics

Introduced by the Department of Physics, the programme in Electronics & IT is aimed at developing essential skills in the application of electronics and information technology. The in-depth training will enable students to pursue careers in related industry. The electronics and computing laboratory I and II courses (PH 1021 and PH 2021) are pre-requisites to be eligible for the thematic program.

Applied Statistics

Student Intake: 20

Coordinating Department: Statistics

The Applied Statistics programme was introduced with the intention of enhancing the employability of science graduates by developing management and data-driven decision-making skills. This programme was designed with the collaboration of industry personnel.

The IS & FM students and Physical Science students who have taken Statistics as a main subject in Levels I & II (i.e. P2, P4 and P6 combinations) are eligible to follow this programme.

Finance and Insurance

Student Intake (Physical science and IS & FM): 20

Coordinating Departments: Mathematics

Finance and Insurance are areas with a great potential of applicable advanced research and rewarding career options in a wide range of industries. These fields have shown substantial growth despite the recent economic downturn. Therefore, there is a high degree of guaranteed employability in comparison with other areas. Studying finance and insurance could be a good choice for potential students who wish to pursue their career either in postgraduate research or in the insurance sector. These fields are dense with job opportunities in a growing knowledge economy.

Courses are designed to provide insight into insurance, banking, finance and fundamentals of management in aspects of both theory and practice. The degree in Finance and Insurance will enable students to pursue a wide range of careers in the financial services industry and to gain professional qualifications.

Eligibility: A minimum GPA of 2.50 at the end level II for all registered courses including CS core courses.

Business and Environment

Student Intake: 20

Coordinating Department: Zoology & Environment Sciences

The Department of Zoology & Environment Science is offering a new 4-year BSc Honours degree program with industrial orientation to provide opportunities in this newly emerging sector of employment. Rapid development of tourism and its associated service sectors, and gradual mainstreaming of sustainable development in the corporate sector, the inclusion of climate change impacts and adaptations in every sphere of activity has created a need for university graduates who can fulfill the demands created by these. This new programme has been designed in close collaboration with the private sector that relies on the products and services of the ecosystems in Sri Lanka, and those who have successfully marketed their organizations to a global clientele. The courses are designed to include student-centered learning which in turn will provide a richer and more interactive teaching and learning environment. Leaders from the corporate world will teach alongside university academics and others who have much experience in molding persons for the world of work. The inclusion of group projects and industrial training is especially helpful to provide a wide range of competencies essential in the modern-day workplace and opportunities for employment.

Horticulture and Sustainable Landscaping

Student Intake: 20

Coordinating Department: Plant Sciences

Introduced by the Department of Plant Sciences, the theme will focus on horticulture and landscaping with a strong emphasis on maintaining the sustainability of human-modified landscapes. Students following this theme will be provided with opportunities to understand basic landscape design and landscape management practices for urban and suburban areas. In addition, students will be trained to develop entrepreneurial skills and computer literacy in this discipline. The programme will be taught by academic and professional experts and will include a component of industrial training.

Science and Management

Student Intake: No restriction

Coordinating Unit: CGU

The Career Guidance Unit, Faculty of Science offers a four-year degree programme on the theme “Science and Management”. This programme is designed to provide students with a solid background in science as well as a grounding in managerial skills. The Science and Management theme aims to prepare students for executive careers in public / private corporations and institutions which are technology-oriented. The students following this theme will learn the principles in their specific track (Environmental Science, Chemistry, Physics or other fields) and are expected to acquire the ability to apply them to solve problems and gain knowledge on fundamental principles of management, economics and accounting, experience in the world outside the classroom, and the background necessary for a career focused on science and management with the development of adequate soft skills.

Molecular Biology and Biotechnology

Student Intake: 15

Coordinating Department: Chemistry

The Molecular Biology and Biotechnology programme is aimed at providing students a more application-oriented programme in biotechnology with a view to enhancing the employment opportunities of students while also benefiting those who want to pursue graduate studies. The programme will consist of several courses with lectures, tutorials, laboratory classes and a group project. The lectures will cover the scientific fundamentals of Molecular Biology and Biotechnology in the fields of Medicine, Agriculture, Industry and Environment while the laboratory classes and the group project will provide training in some of the basic skills and techniques in Molecular Biology and Biotechnology with an emphasis on those relevant to the country. All students in their final year will also enroll in an approved internship programme which will help students to get on-the-job experience and prepare them for future employment in industry.

Nuclear Technology

Student Intake: 06

Coordinating Department: Nuclear Science

The main objective of the programme is to provide an overall knowledge and practical skills in nuclear technology which includes medical physics, nuclear medicine, radiochemistry, environmental radiation and nuclear analytical techniques. During the final year students will have 120 hours of industrial or clinical practice in a relevant institute or major hospital in Colombo where they acquire hands-on experience required for a career that combines the theory with the technology. Scopes of this degree programme is to produce graduates with sound knowledge in all fields of Nuclear Science while promoting research and developments on environmental radiation, radiochemical analysis and medical physics in Sri Lanka. In addition, this degree will provide the basic knowledge and skills for those who plan postgraduate degrees.

DEGREE AWARDING CRITERIA

BSc Degree (03-year duration)

To be eligible for the BSc Degree (03-year duration), a student must **complete** a minimum of **90** academic credits with at least **30** credits from each of Level I, Level II and Level III.

For students in the Physical Science stream, at least **48** credits of the 90 should be from the core courses, with a minimum of 06 credits each from the three main subjects (07 in the case of Chemistry) totaling 18 – 19 credits at each of Levels I & II, and 06 credits each from two of the main subjects totaling 12 credits at Level III.

For students in the Biological Science stream, at least **54** credits of the 90 should be from the core courses, with a minimum of 07 credits each from the three main subjects totaling 21 credits at each of Levels I and II, and 06 credits each from two of the main subjects totaling 12 credits at Level III.
Furthermore, a student must have

(1) obtained a grade **not lower than C in courses aggregating to a minimum of 72 academic credits**, with a minimum of 24 academic credits in each of Levels I, II and III.

(2) obtained **no** grade of NC (not complete). However, in the event of a candidate being unable to sit the final examination of a course for approved medical or other unavoidable reasons **during his/ her final year only**, an E grade may be assigned to such final examination at the request of the candidate and with the approval of the Faculty Board. This is applicable for courses **totaling no more than 06 credits**.

(3) not obtained grades of E (including any from (2) above) in **more than 06** academic credits

(4) obtained a grade of S (Satisfactory) or better in enhancement courses totaling a minimum of 04 credits

(5) obtained a minimum GPA of 2.00

(6) completed the relevant requirements within a period of **06** academic years.

Award of Classes

A student shall be awarded a **First Class** provided that he/she has

1) obtained grades **not lower than C** in academic courses aggregating to **at least 80** academic credits
2) obtained a minimum GPA of **3.70**
3) completed the relevant requirements within a period of **03 consecutive** academic years

A student shall be awarded a **Second Class in the Upper Division** provided that he/she has

1) obtained grades **not lower than C** in academic courses aggregating to **at least 75** academic credits
2) obtained a minimum GPA of **3.30**
3) completed the relevant requirements within a period of **03 consecutive** academic years

A student shall be awarded a **Second Class in the Lower Division** provided that he/she has

1) obtained grades **not lower than C** in academic courses aggregating to **at least 75** academic credits
2) obtained a minimum GPA of **3.00**
3) completed the relevant requirements within a period of **03 consecutive** academic years

BSc Honours Degree with Research Orientation and BSc Honours Degree with Industrial Orientation

To be eligible for the BSc Honours degree (four-year duration), a student must **complete** a minimum of **120** academic credits with at least **30** credits from each of Levels I, Level II, Level III and Level IV, **including the research project** (and where relevant the industrial training component).

For students in the Physical Science stream, at least 36 credits of the 120 should be from the core courses, with a minimum of 06 credits each from the three main subjects (07 in the case of Chemistry) totaling 18 – 19 credits at each of Levels I & II.

For students in the Biological Science stream, at least 42credits of the 120 should be from the core courses, with a minimum of 07 credits each from the three main subjects totaling 21 credits at each of Levels I and II

Level III and IV credits must be from the courses specified for the respective four-year degree programme.

Furthermore, a student must have

(1) obtained a grade **not lower than C in courses aggregating to a minimum of 96 academic credits** with a minimum of 24 academic credits in each of Levels I, II, III and IV.

(2) obtained a grade not lower than C in the research project and where relevant in the industrial training

(3) obtained **no** grade of NC (not complete). However, in the event of a candidate being unable to sit the final examination of a course for approved medical or other unavoidable reasons **during his/ her final year only**, an E grade may be assigned to such final examination at the request of the candidate and with the approval of the Faculty Board. This is applicable for courses **totaling no more than 08 credits**.

(4) not obtained grades of E (including any from (2) above) in **more than 08** academic credits

(5) obtained a grade of S (Satisfactory) or better in enhancement courses totaling a minimum of 04 credits

(6) obtained a minimum GPA of 2.00

(7) completed the relevant requirements within a period of **06** academic years

(8) fulfilled any other requirements approved by the Faculty Board. E.g. Professional requirements*

Award of Classes

A student shall be awarded a **First Class** provided that he/she has

1) obtained grades **not lower than C** in academic courses aggregating to **at least 105** academic credits
2) obtained a minimum GPA of **3.70**
3) completed the relevant requirements within a period of **04 consecutive** academic years

A student shall be awarded a **Second Class in the Upper Division** provided that he/ she has

1) obtained grades **not lower than C** in academic courses aggregating to **at least 100** academic credits
2) obtained a minimum GPA of **3.30**
3) completed the relevant requirements within a period of **04 consecutive** academic years

A student shall be awarded a **Second Class in the Lower Division** provided that he/ she has

1) obtained grades **not lower than C** in academic courses aggregating to **at least100** academic credits
2) obtained a minimum GPA of **3.00**
3) completed the relevant requirements within a period of **04 consecutive** academic years

***Professional requirement for BSc Honours in Pharmacy**

The BSc Honours in Pharmacy is a professional degree, which qualifies graduates to practice the profession of Pharmacy. To be eligible for this degree, a student must have obtained a **C grade or better** in each of the following courses, in addition to the criteria specified for the award of the BSc Honours degrees.

Level III courses

1) CH 3071 Pharmaceutics I
2) CH 3024 Pharmaceutical Chemistry
3) CH 3074 Pharmacology I

Level IV courses

1) CH 4070 CH 3071 Pharmaceutics II
2) CH 4071 Pharmacology II
3) CH 4075 Pharmaceutical Law and Ethics

Option to Revert to BSc Degree from BSc Honours Degree

A student reading for a BSc Honours Degree (04-year) may request in writing for the award of the BSc Degree (03-year), upon satisfying the requirements for the award of the BSc Degree (03-year). This request should be made to the Dean of the Faculty after completing Level III or during Level IV or within 2 weeks of the release of the Level IV examination results.

Award of the Degree

A student should apply for the award of a Degree on satisfying the requirements. On completion of the BSc or BSc Honours Degree, a student is entitled to an official transcript giving grades in the respective courses after the confirmation of results by the University Senate.

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MEDALS, PRIZES, AWARDS AND SCHOLARSHIPS

Undergraduate scholarships, awards, medals and prizes are awarded to students on the basis of academic merit and other considerations. A brief outline of the awards offered to students in the Faculty of Science is given below. Details of specific requirements that are necessary to qualify for each award can be obtained from the Examinations Branch of the University and/or the relevant academic Department.

Awards presented at the convocation

Name of the Award	Selection Criteria	Narrative
Awards in Chemistry		
Bhikaji Framji Khan Gold Medal for Chemistry	The medal is awarded to the student who shows the highest competence in Chemistry at the BSc Honours Degree examination.	The Bhikaji Framji Khan Gold Medal for Chemistry was established at the Ceylon University College in 1938 by Mr. F.P. Khan
Dharmachandra & Tamarasa Gunawardhana Memorial Gold Medal for Analytical Chemistry	This award is presented to the student with the best performance in Analytical Chemistry in the Chemistry BSc Honours Degree programme.	This award was established by Professor H.D. Gunawardhana, Professor of Inorganic Chemistry and Mrs. P.C. Nanayakkara, in memory of their parents, Mr. H. Dharmachandra Gunawardhana and Mrs. Tamarasa Podimenike Handinnapola Gunawardhana.
Professor R.S. Ramakrishna Gold Medal for Inorganic Chemistry	The gold medal is awarded for the best performance in Inorganic Chemistry in the Chemistry BSc Honours Degree programme.	The award was established in 2001 in honor of late Professor R.S. Ramakrishna by his students.
Professor Pearlyn Pereira Memorial Gold Medal for Physical Chemistry	The gold medal is awarded for the best performance in Physical Chemistry in the Chemistry BSc Honours Degree programme	The award was established in 2001 in memory of late Professor Pearlyn Pereira by her students.
Gold Medal for Organic Chemistry	The Gold Medal is awarded to the student who obtains the highest aggregate mark for the course units in Organic Chemistry offered in the BSc Honours Degree programme in Chemistry.	The award was established in 2010 by the 2003/2004 batch of special degree students of the Department of Chemistry.
Professor Stanley Wijesundera Memorial Gold Medal for Biochemistry and Molecular Biology	The award is for the best performance in Biochemistry, Molecular Biology course units in	This award was established in memory of Prof. Stanley Wijesundera, former Vice-

	the BSc Honours Degree programme.	Chancellor of the University of Colombo, by his wife Mrs. Anoja Wijesundera.
The Gulamhusse in A.J. Noorbhai Gold Medal for Biochemistry and Molecular Biology	Awarded to a student who has shown the highest competence at the BSc Honours Degree examination in Biochemistry and Molecular Biology	The award was established by Dr.Tuwab Fazleabas F.R.C.S. (England) in 1999.
The Gulamhusse in A.J. Noorbhai Gold Medal for Pharmacy	Awarded to the student who has shown the highest competence at the BSc Honours Degree examination in Pharmacy.	The award was established by Dr.Tuwab Fazleabas F.R.C.S. (England) in 1999.
Awards in Mathematics		
Dharmadasa Punchihewa Memorial Prize for Mathematics	The prize is awarded for the best performance, with either a First or a Second-class Upper Division, in the BSc Honours Degree examination in Applied Mathematics or Computational Mathematics.	The Prize was founded by Mr. & Mrs. G.W. Jayasuriya in 1983, in memory of Mrs. Jayasuriya's father, the late Mr. Dharmadasa Punchihewa.
Mr & Mrs. D. P. Epasinghe Memorial Gold Medal for Mathematics	The gold medal is awarded to the student who has shown the highest competence in Mathematics at the BSc Honours Degree examination and having a First Class	This award was established in 2004 by Emeritus Professor P.W. Epasinghe in memory of his parents.
Professor Valentine Joseph Memorial Gold Medal for Applied Mathematics	Awarded to the best student with a First Class pass in the BSc Honours degree in Applied Mathematics programme with the highest GPA.	This gold medal was established in 2018 by Colombo University Faculty of Science Alumni Association of North America in memory of late Professor Valentine Joseph, former Professor, Department of Mathematics, University of Colombo.
Douglas Amarasekera Prize for the Best Student in Mathematics	Awarded to the student who performs best in the BSc Honours degree Pure Mathematics courses with at least a Second-Class Upper Division.	The prize was established in 2004 in memory of the late Douglas Amarasekera, former Professor of Mathematics, University of Colombo

The Gulamhusse in A.J. Noorbhai Gold Medal for Mathematics	Awarded to a student who has shown the highest competence at the BSc Honours Degree examination in Mathematical Finance.	The award was established by Dr.Tuwab Fazleabas F.R.C.S. (England) in 1999.
Awards in Physics		
Dr.C.A. Hewavitharana Memorial Prize for Physics	The prize is awarded to the student who shows the highest competence in Physics at the BSc Honours Degree examination.	Two Prizes were founded in 1951 by Mrs. C.A. Hewavitharana. One prize is awarded for Sanskrit and one for Physics, in memory of her husband, the late Dr. C.A. Hewavitharana, FRCS (Eng.) LRCP (Lond), a member of the Ceylon University College Council.
Mailvaganam Memorial Award in Physics	The prize is awarded to the student placed first with either a First-Class or a Second-Class upper division in the BSc Honours Degree examination in Physics.	The Award was established in 1987 in memory of Professor A.W. Mailvaganam, Professor of Physics at the University of Ceylon and University of Colombo by Mr. H.D.S.A. Gunawardena (a student of Professor A.W. Mailvaganam),
Mr.A.G.W.Perera Memorial Gold Medal for Engineering Physics	The Gold Medal shall be awarded to the student placed first with a First-Class division in the BSc Honours Degree examination in Engineering Physics.	This Medal was established in memory of Mr. A.G.W. Perera.
Dr. Sarath Gunapala Gold Medal for Computational Physics	This Gold Medal shall be awarded to the student placed first with a First-Class division in the BSc Honours Degree examination in Computational Physics.	
The Gulamhusse in A.J. Noorbhai Gold Medal for Research Project in Physics	Awarded to the student who has shown the highest competence in the research project in Physics with an “A" grade	The award was established by Dr.Tuwab Fazleabas F.R.C.S. (England) in 1999.

Awards in Plant Sciences		
Professor B.L.T. de Silva Memorial Award in Plant Sciences	The award is for the student who shows the best performance in the Plant Sciences or Plant Biotechnology BSc Honours Degree programmes.	The Award was established in memory of the late Professor, B.L.T. de Silva, Professor of Botany, University of Ceylon, by his colleagues and students.
Professor P.C. Sarbadhikari Award for Plant Science	The award is for the best performance in Plant Sciences in the BSc Degree programme (03-year duration)	This award was established in memory of Professor P.C.Sarbadhikari by Professor B.A. Abeywickrema. Professor P.C. Sarbadhikari, M.Sc. (Calcutta), Ph.D., D.Sc. (London) was appointed as a Lecturer in Botany at the University College in 1925 and the Professor of Botany in 1943 in the University of Ceylon.
Sir Nigel Ball Award for Plant Sciences	The award is for the best performance in Advanced Plant Physiology and Plant Biochemistry in the BSc Honours Degree programmes of the Department of Plant Sciences.	This award was established in memory of Sir Nigel Ball, M.A., Sc.D. (Dub.) by Professor B.A. Abeywickrema. Sir Nigel Ball was appointed the Professor of Botany in the University College in 1924 and in 1942 in the University of Ceylon.
Professor B.A. Abeywickrema Award for Plant Sciences	This award is for the best performance in Plant Systematics and Ecology related courses (as specified by the Department) in the Plant Sciences BSc Honours Degree Programme.	The staff members of the Department of Plant Sciences established this award in recognition of the excellent service rendered by Prof. B.A. Abeywickrema, former Professor of Botany, University of Colombo.
Dr. Swarna Senathirajah Memorial Prize for Genetics and Plant Breeding	The prize is awarded to a student in the BSc Honours Degree programmes in the Department of Plant Sciences, who performs best in the Genetics and Plant Breeding courses.	The University of Colombo Science Teachers Association established this endowment in 1985 in memory of Dr. (Mrs.) Swarna Senathirajah of the Department of Plant Sciences.

Awards in Statistics		
CR and Bhargavi Rao Gold Medal for Statistics	The gold medal is awarded to the best student in the BSc Honours Degree programmes (with research orientation) of the Department of Statistics, University of Colombo. The best student is selected from among the eligible students who have obtained – a First Class with an overall GPA of 3.70 or above (out of 4.00) and the highest weighted aggregate in the respective graduation year AND – at least A grades (in his/her first attempt) for all the course modules taken during Levels III and IV of the BSc Honours degree programme, including the final year research project (supervised by a senior staff member).	The award was by the Eminent Scientist and Mathematical Statistician Prof. Calyampudi Radhakrishna Rao in 2018.
Mr. and Mrs. V.W. Samaranayake Memorial Gold Medal for Statistics	The award is made to the student with the highest GPA among those having a GPA of 3.30 and above in the BSc Honours degree programme in Statistics	The award was founded by Professor V.K. Samaranayake, former Professor of Mathematics, University of Colombo, Mrs. V.K. Samaranayake and Mr.V.A. Samaranayake of the Department of Statistics, Kansas University, USA in memory of the late Mr. & Mrs. V.W. Samaranayake.
Professor V.K.Samaranayake Memorial Gold Medal for Statistics with Computer Science	The award is made to the student who obtains the highest GPA among those having a GPA of 3.30 or above in the BSc Honours degree programme in Statistics with Computer Science.	The gold Medal was founded by the Department of Statistics

Gold medal for Industrial Statistics	The Gold medal is awarded to the student who obtains the highest GPA amongst those having a GPA of 3.3 or above in the Industrial Statistics BSc Honours Degree Programme.	The gold medal was established by the staff of the Department of Statistics.
Gold Medal for the Best Final Year Research Project in Statistics	The gold medal is awarded for the best performance in the final year project with an "A" grade in the Statistics BSc Honours degree programme, having at least a GPA of 3.30.	The Gold Medal was established by the staff of the Department of Statistics.
Gold medal for the Best Final Year Research project in Statistics with Computer Science	The gold medal is awarded to the student who obtains a minimum GPA of 3.30 and the highest marks for the final year project with an "A" grade in the Statistics with Computer science BSc Honours degree programme.	The above Gold Medal was established by the Department of Statistics.
Gold medal for the Best Final Year Research Project in Industrial Statistics	The Gold medal shall be awarded to the student who obtains highest marks for the final year project with a grade "A or above" amongst those having a GPA of 3.3 or above in the Industrial Statistics BSc Honours Degree Programme.	The above medal was established by the staff of the Department of Statistics
Gold Medal for the Best Student in Applied Statistics Programme	The gold medal is awarded to the best student who has the highest GPA out of the students who complete the BSc Honours degree proramme (with industrial orientation) in "Applied Statistics" and obtains an overall GPA of 3.30 or above.	Gold Medal was established by the Department of Statistics in 2018.
Awards in Zoology & Environment Science		
P. B. Karunaratne Memorial Gold Medal for Ornithology	The gold medal is awarded for the best performance in Ornithology in the Zoology BSc Honours Degree programme	The Field Ornithology Group of Sri Lanka established the award in 2001 in memory of the late P.B. Karunaratne, field ornithologist.

The Field Ornithology Group Gold Medal for Business and Environment	The gold medal is awarded for the best performance in the BSc Honours Degree programme in Business and Environment (industrial orientation)	The Field Ornithology Group of Sri Lanka established the award for an environment related course in 2001.
Professor. S.W.Kotagama Gold Medal for the best student in the BSc Honours Degree Programme in Environment Science	The gold Medal awarded to the student who obtains the highest GPA from among those who fulfil the requirements for a First Class in the BSc Honours Degree pragramme in Environment Science.	The above Gold Medal has been established by the Department of Zoology and Environment Science and Base for Enthusiasts of Environmental Science and Zoology (BEEZ).
The Gulamhusse in A.J. Noorbhai Gold Medal for Research Project in Zoology	Awarded to the student who has shown the highest competence in the research project in Zoology with an “A” grade.	The award was established by Dr.Tuwab Fazleabas F.R.C.S. (England) in 1999.
The Gulamhusse in A.J. Noorbhai Gold Medal for Zoology	Awarded to the student who has shown the highest competence at the BSc Honours Degree examination in Zoology.	The award was established by Dr.Tuwab Fazleabas F.R.C.S. (England) in 1999.
The Professor P. C. B and Clauda Fernando Award for the Best Undergraduate Research Project in the Immunology & Integrative Molecular Biology Programme	Awarded to a student of the BSc Honours Degree in the Immunology & Integrative Molecular Biology Programme of the Department of Zoology and Environment Sciences, who obtains the highest mark (at least an ‘A’ grade) for the final year research project and has completed all other requirements for graduation.	The award was established by Prof. Preethi Gunaratne in memory of her late parents.
Field Ornithology Group Gold medal for Conservation Biology	The Gold medal is awarded to the student who has obtained a GPA of 3.30 or better at the level III examination in Science and is placed first in the order of merit in the ZL 3069, Fundamentals of Conservation Biology and Wildlife Management course and has obtained an "A" grade for this unit.	The field Ornithology Group of Sri Lanka established the award for the Conservation Biology course in 2015.

Other Awards		
Coomaraswamy Prize	The prize is awarded to the student who shows the highest competence in the BSc Degree programme.	The Coomaraswamy Prize was founded at the Ceylon University College in 1922 by the late Sir Ponnambalam Arunachalam in memory of his uncle Sir Mutu Coomaraswamy.
Justin Samarasekara Award for the Most Outstanding Science Student of the Year	The award is for the most outstanding student in the faculty.	The Award was established in 1979 by Mr. Justin Samarasekara of Justin Samarasekara Associates, Colombo (Architects).
The Award for the Best Student in the BSc Degree Programme in Biological Science	This is awarded to the best student (based on the weighted average) either in the Biological Science or Biochemistry & Molecular Biology streams. The student will only be eligible for the award if he/she has obtained a BSc Degree with First Class Honours.	
The Award for the Best Student in the BSc Degree in Physical Sciences	The award is made to the student who shows the highest (weighted average) and having a First Class, either in Physical Science or Industrial Statistics and Mathematical Finance streams in the BSc Degree.	Mr. Dhammika and the late Dr. Maya Gunasekara established this award in 1995.
Joseph Nalliah Arumugam Memorial Award	The gold medal is awarded to the student who shows the highest competence in the final examination in Science.	Dr. (Mrs.) L.G. Arumugam established, in 1986, an endowment with the UGC in order to award five Scholarships and two Gold Medals to various universities in memory of her late husband Mr. Joseph Nalliah Arumugam, (CBS, CCS, BSc, and Barrister-at-Law).

Prizes and scholarships awarded during the study period

Name of the Award	Selection Criteria	Narrative
Arthur Lambert Rupasinghe Memorial Scholarship	The award is for a student following the BSc Honours degree programme in Physics and is based on the performance in the first two years.	The scholarship was established at the Ceylon University College in 1933, under the will of the late Mr. G.L. Rupasinghe, in memory of his brother, Arthur Lambert Rupasinghe.
Clarence Amarasinghe Scholarship	The award is for a student following a BSc Honours degree programme and is based on financial need and performance in the first two years.	Mrs. Senehelatha Amarasinghe endowed two scholarships in memory of her parents, the late Mr. & Mrs. NDS Silva and her late husband, Mr. Clarence Amerasinghe
Charles M. Dias Memorial Scholarship	The scholarship is for a male student from the Kalutara District and is based on the performance in the first-year examination in Science.	The scholarship was founded in 1983 by Professor and Mrs. Hiran D. Dias in memory of his late father, Mr. Charles M. Dias.
W. Charlotte Peries Scholarship in Chemistry	The scholarship is awarded to a Physical Science student reading for the BSc Honours Degree in Chemistry and is based on the performance in the first two years.	The scholarship was founded in 1986 by Professor W. Pearlyn Daisy Pereira (nee Peries) of the Department of Chemistry, University of Colombo, in memory of her late mother Mrs. W. Charlotte Peries.
C.L. de Silva Memorial Prize	The prize is awarded to a student reading for the BSc Honours degree in Chemistry and is based on the performance in the first two years.	The prize was established in 1958 in memory of the late C.L. de Silva, Lecturer in Chemistry, University of Ceylon.
Department of Plant Sciences Staff Prize	The prize is awarded to a student reading for a BSc Honours degree in the Department of Plant Sciences and is based on the performance in the first two years.	The prize was established in 1974, with contributions from the members of the academic staff and well-wishers of the Department.
Kirthisinghe Memorial Prize in Zoology	The award is for the best student admitted to the BSc Honours degree programme in Zoology.	The prize was established in 1981 by Dr. D. Kirthisinghe and Mrs. L.R. Amarasuriya in memory of their late father Professor P. Kirthisinghe who was on the staff of the University of Colombo.
Professor J.E. Jayasuriya Prize for Mathematics	The prize is awarded based on the performance in Mathematics in the first-year examination in Science and on potential income.	The prize was established by Mrs. J.E. Jayasuriya in memory of her husband, late Prof. J.E. Jayasuriya, former Professor of Education.
Dr. Shamol Basu Memorial Scholarship	The scholarship is awarded to a student reading for the BSc Honours degree in Chemistry and is based on the performance in Chemistry in the first two years.	The scholarship was established in 1992 by the family of Dr. Shamol Basu, in memory of Dr. Shamol Basu who died whilst in service at the University of Colombo.

P. P. Jayawickrema Memorial Scholarship	The scholarship is awarded for competence in Physics in the first-year examination.	The scholarship was established in 1993 by Mrs. Rohini Jayawickrema in memory of her late husband, Mr. P.P. Jayawickrema.
Mr. & Mrs. H.D.P. Gunawardena Memorial Prize in Physics and Mathematics	The prize is awarded to a student from the North-Western Province and is based on the performance in Physics and Mathematics in the year examination.	The prize was established in 1987 by Mr. H.D.S.A. Gunawardena in memory of his parents who were principals of schools in the North-Western Province.
Gulamhussein A.J. Noorbhai Scholarship for Mathematics	Awarded to a third-year student reading for the Mathematics BSc Honours degree and has performed best in Mathematics in the first two years.	The scholarship was established in 1999 by Dr. Tuwab Fazleabas F.R.C.S. (England).
Gulamhussein A.J. Noorbhai Scholarship for Zoology	Awarded to a third-year student reading for the Zoology BSc Honours degree and has performed best in Zoology in the first two years.	The scholarship was established in 1999 by Dr. Tuwab Fazleabas F.R.C.S. (England).
Douglas Amarasekera Bursaries	The bursary is given to students following Pure Mathematics as a subject and is based on academic performance and family income.	The bursary was established in memory of the late Douglas Amarasekera, former Professor of Mathematics, University of Colombo.
Kottegoda Gnanalankara Thero Scholarship for Mathematics	This scholarship is given to a student from either the Southern or Western Province and is based on the performance in Pure and Applied Mathematics courses in the first year and on family income.	
Astron Scholarship for Pharmacy	The scholarship is given to the student who performs best at the third year BSc Honours degree examination in Pharmacy.	The scholarship was established in 2004 by Astron Ltd.
Prof. H.D. Gunawardhana Scholarship	The scholarship is awarded to a student following the BSc Honours degree programmes in Chemistry or Computational Chemistry. It is based on the performance at the Level III examination.	The scholarship was established in 2011 by well-wishers of the Department of Chemistry.
Dr. Sujatha Hewage Scholarship	The scholarship is awarded to a student following the BSc Honours degree programmes in Pharmacy or Biochemistry & Molecular Biology. It is based on the performance at the Level III examination.	The scholarship was established in 2011 by well-wishers of the Department of Chemistry.
Professor E. Dilip de Silva Scholarship	The scholarship is awarded to a student following the BSc Honours degree programme in Chemistry. It is based on the performance in the first two years and financial need.	The scholarship was established in 2016 by the former students and well-wishers of Prof. E. Dilip de Silva.

THE DEPARTMENTS OF STUDY

The Faculty of Science comprises seven departments that specializes in diverse field of study. Each department has academics who engage in teaching and multidisciplinary research and development activities. These departments within the Faculty Science are:

- Department of Chemistry
- Department of Mathematics
- Department of Nuclear Science
- Department of Physics
- Department of Plant Sciences
- Department of Statistics
- Department of Zoology & Environment Sciences.

In addition, the Faculty of Science has a Science and Technology Cell which functions as an independent unit.

Department of Chemistry

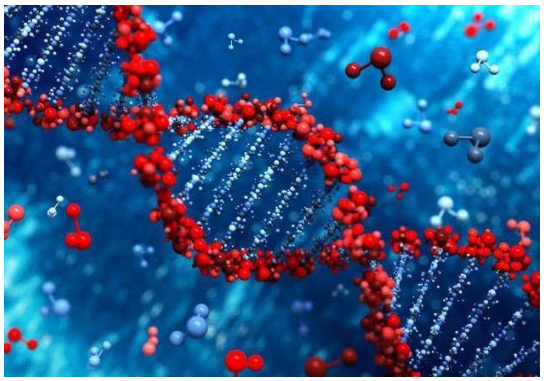
Chemistry is often referred to as the "Central Science" as it stands between and significantly overlaps with mathematics, physics, and biology. Chemistry is an integral component of applied sciences such as pharmaceutical, biomedical, agricultural and environmental science. Students with a strong background in chemistry are at a significant advantage being able to work and apply their knowledge in these areas and a number of other related fields. In this context the Department of Chemistry has designed and offers a carefully planned syllabus to equip the student with the required theoretical knowledge and practical training to face the multifaceted challenges they might encounter on graduation. The department provides the basic background in all areas of chemistry in the first two academic years.BSc Degree students in their third year, are given exposure to more applied and industry-oriented courses while students following BSc Honours Degree programmes are exposed to more specialized and advanced aspects in the respective areas of study. The department also conducts a number of M.Sc./Diploma programmes with a view to providing an opportunity for postgraduate students, especially for those employed, to enhance their knowledge in areas of their choice. The Department of Chemistry plays a central and a unique role among the seven departments that make up the Faculty of Science.

Academic Programmes

Undergraduate Programmes

BSc Degree:

The Department of Chemistry offers a number of core, compulsory and elective courses in chemistry open to both physical science and biological science students. The core/ compulsory courses are designed to provide the foundation not only to further knowledge in chemistry but also in other related areas. The elective courses are designed to cover topics of more general interest.



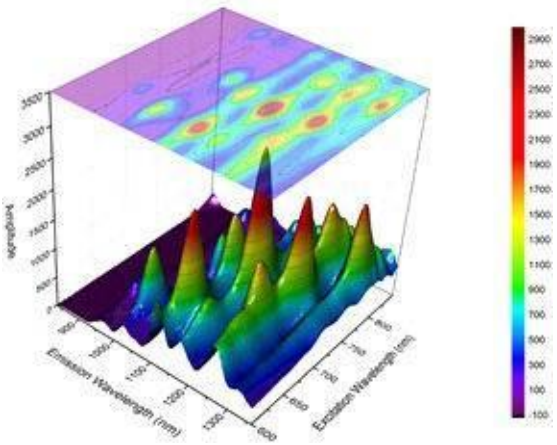
BSc Honours Degree:

The department conducts the following BSc Honours Degree programmes with Research Orientation:

- Chemistry
- Biochemistry & Molecular Biology
- Computational Chemistry
- Pharmacy

The department has joined hands with the Faculty of Medicine, University of Colombo to conduct the BSc Honours Degree Programme in Pharmacy.

The Department also offers a four-year BSc Honours Degree programme with Industry Orientation in Molecular Biology and Biotechnology.



Postgraduate Programmes

M.Sc./Postgraduate Diploma:

Presently, the Department of Chemistry conducts three M.Sc. / Postgraduate Diploma programmes.

- The M.Sc./Postgraduate Diploma Programme in Analytical Chemistry was initiated in 1975 and is the oldest and longest running M.Sc. programme in the country. Currently the annual intake stands around 50 students.

- The M.Sc./Postgraduate Diploma in Applied Organic Chemistry commenced in April 2006. This programme has an annual intake of 25 students.

- The M.Sc./Postgraduate Diploma in Chemistry Education commenced in June 2007. The annual intake is around 15 students.

M.Phil. / Ph.D. Degree:

The Department of Chemistry enrolls students to pursue M.Phil and Ph.D. degree programmes under the supervision of senior faculty members of the department. The number of students in these programmes varies and depends on the availability of research grants and the facilities in the department.

Centre for Analytical Research and Development (CARD)

The Centre for Analytical Research and Development (CARD) was established in the Department in collaboration with Dalhousie University, Canada in 1980. CARD is a central body that provides analytical and other services to the industry and institutions in Sri Lanka. Over the years the department has been involved in a number of activities including analytical and consultancy services, as well as training and research programmes. This has undoubtedly contributed to the requirements of both the private and the public sectors of the country.

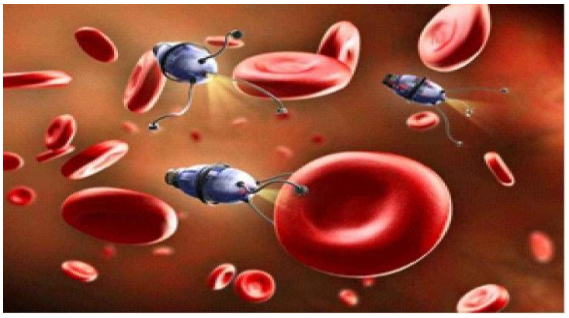
Centre for Advanced Materials and Devices (CAMD)

CAMD established in 2018, is a materials science research centre with state-of-the art facilities. It is equipped with many sophisticated instruments such as X-ray Diffractometer (XRD), Microwave Plasma

Atomic Emission Spectrometer (MPAES) and Electrospinning apparatus. Work at CAMD focuses on research and development of novel materials and technologies related to water purification, drug delivery, textile & apparel, rubber composites and natural resources. The center also provides consultancy services and expertise to industry and other research institutions in numerous areas related to advanced materials and nanotechnology.

Biotechnology Laboratory

The Biotechnology laboratory of the Department of Chemistry offers consultancies, custom services and undertakes contract research in Molecular Biology and Biochemistry. These include cloning, construction and screening of DNA libraries, recombinant protein production *etc*. The laboratory also offers a range of Molecular Biology products and reagents for research and teaching including enzymes, DNA and RNA isolation kits, DNA and protein markers *etc*.



Sri Lanka Pharmaceutical Laboratory

The Sri Lanka Pharmaceutical laboratory is a collaborative project between the University of Colombo, the Ministry of Industry & Commerce and the Sri Lanka Pharmaceutical Manufacturer's Association. The Laboratory mainly services the industry and analytical services are open to other sectors as well.

Extension Courses

The Department conducts specialized courses / workshops to cater to the individual needs of industrial organizations and research institutes. These workshops are conducted as and when requested and are designed taking into consideration the special requirements of the interested client.

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Department of Mathematics

The Department of Mathematics has been an integral part of the Sri Lankan University system since its inception in 1921 and is one of the most prestigious and well-recognized mathematics departments of the present-day university system. Until 1967 when the University of Colombo was formed, the Department of Mathematics served both the Science and the Arts Faculties. Mathematics BSc Honours Classes were held from as early as 1922. The department has been housed in the central building of the University, the old Royal College building, since the acquisition of it in 1923.

Mathematics, both an art and a science, provides essential tools for the advancement of many areas not only in the sciences but also in engineering, finance and economics. Pure Mathematics lies at its heart and is a core subject of human thought. It teaches logical and abstract thinking which is essential to form a sound basis for learning. Therefore, Mathematics plays a crucial role in education at the primary and secondary levels. At the tertiary level, a basic knowledge of Mathematics is essential for every graduate in pursuing a successful career in today's society. In view of this, the department strives to design its curricula and organizes its services and activities to realize the full potential of the mathematical ability of its students and staff.

Academic Programmes

Undergraduate Programmes

BSc Degree (03-year duaration):

The department offers courses in Applied Mathematics and Pure Mathematics for Physical Science students in the first, second and third years of the BSc Degree programme. It also offers courses in Financial Mathematics and Management Science for BSc degree students in the Industrial Statistics and Mathematical Finance stream. Many BSc Degree courses are job oriented.

The Pure Mathematics courses offered to the students during the first three years enable them to develop their analytical thinking and logical writing skill. The Applied Mathematics, Financial Mathematics and Management Science courses form the knowledge base for various applications in the Sciences, Engineering, Biology, Finance and Economics.

BSc Honours Degree with Research Orientation (04-year duration): The Department at present offers four programmes that lead to the BSc Honours Degree with Research Orientation, namely,

- Mathematics
- Applied Mathematics
- Computational Mathematics
- Mathematical Finance.

The programmes that lead to the BSc Honours

Degrees with Research Orientation (Mathematics, Applied Mathematics and Computational Mathematics) are offered to the students from the Physical Science stream and the programme that leads to the BSc Honours Degree with Research Orientation (Mathematical Finance) is offered to students from the Industrial Statistics and Mathematical Finance stream. These degrees are of high academic quality and are well recognized. Many graduates with a BSc Honours Degree with Research Orientation obtain positions in the public and private sectors.

The programme that leads to the BSc Honours Degree with Research Orientation (Mathematics) intends to provide a deep and broad understanding of mathematics itself and targets students with strong theoretical interests. It provides a solid preparation for further studies and research in pure and applied mathematics.

The programme that leads to the BSc Honours Degree with Research Orientation (Applied Mathematics) is designed to provide an adequate foundation for advanced academic and professional activities in applied mathematics.

Particularly designed to cater to the growing demands in the industry, the programme that leads to the BSc Honours Degree with Research Orientation (Computational Mathematics) lays a solid foundation for providing mathematical and computational solutions to real problems.

The programme that leads to the BSc Honours Degree with Research Orientation (Mathematical Finance) is designed to provide theoretical, practical and professional knowledge in the field of finance and actuarial sciences. Recently, the department introduced a programme that leads to the BSc Honours Degree with Industrial Orientation (Finance and Insurance) to students in both the Physical Science and Industrial Statistics & Mathematical Finance streams.

Postgraduate Programmes:

Presently the Department of Mathematics conducts two M.Sc./Postgraduate Diploma programmes. They are

- The M.Sc./Postgraduate Diploma in Financial Mathematics
- The M.Sc. / Postgraduate Diploma in Mathematics Education.

The Department also conducts the External Degree programme in Financial Engineering.

M.Phil. / Ph.D. Degree:

The Department of Mathematics enrolls students to pursue M.Phil and Ph.D. degrees under the supervision of senior members of the department.

Research Programmes

Mathematical Modelling, Graph Theory, Quantum Algorithm, Group Theory, Associative Algebra and Category Theory are some of the areas in which academic staff members engage in research which results in articles contributed to local / international peer reviewed journals. The department also conducts student /staff projects in collaboration with research centers, as well as government and non-government institutions.

Research and Development Centre for Mathematical Modelling

The Centre which is affiliated to the department, conducts research on various branches in both theoretical and applied mathematics, and mainly focuses on developing models related to real-world problems of vital importance. Accordingly, the scope of the Centre varies from epidemic modelling and forecasting to discrete modelling and optimization models. The Centre consists of department members, associates and collaborators, who are diligently involved in research activities.

Services

The Department of Mathematics jointly with the Sri Lankan Olympiad Mathematics Foundation, a non- profit organization dedicated to popularizing mathematics at school level, conducts two highly competitive Mathematics competitions namely the Sri Lanka Mathematics Competition (SLMC) and the Sri Lanka Mathematics Challenge Competition (SLMCC) annually. The Sri Lankan team to the International Mathematics Olympiad (IMO) is selected based on the performance of students at these two competitions.

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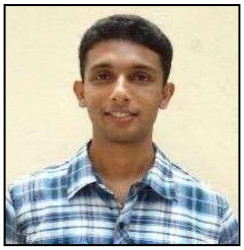

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Department of Nuclear Science

Nuclear Science being the study of the atomic world, is incorporated with a spectrum of wide range of scientific subjects. It consists of radiobiology, radiochemistry, nuclear physics and many other combinations of subjects.

The Department of Nuclear Science of Faculty of Science is the only department within the whole university system which offer training and practical knowledge on Nuclear Science in Sri Lanka. Previously known as the Radio Isotope Centre (RIC), it was established in 1961 through the recommendation made by a preliminary assistance mission of the International Atomic Energy Agency. Since then it has come a long way through, to become the one and only resource center in Sri Lanka with trained competent staff in Nuclear Science to offer a variety of services including teaching and research at undergraduate and post graduate levels.

Academic programmes

Undergraduate

The department offers a variety of course units for undergraduate students not only within the department but also for other departments, faculties and universities.

BSc Degree: The department offers course units in a wide range of combinations for the students reading for the BSc degree from the level II. These include Radiobiology, Medical Physics and Nuclear Technologies in Sri Lanka.

4 year BSc Honours Indestrial Orientation: Additionally, for the students who follow the four year BSc Honours Indesrial orientation degree, the department offer the 'Nuclear Technology' degree theme. This degree programme will provide the student a comprehensive knowledge on various radio isotopic techniques used in different disciplines.

BSc Honours Degree: Our department offers a BSc Honours degree in Nuclear Medical Science which consists of diagnostic and therapeutic nuclear medicine, medical physics, applied nuclear science, health physics and other related disciplines.

Postgraduate

We offer master's Degrees in Nuclear science and Medical physics. Medical physics is the branch of applied physics which combines the medicine with physics. It's a profession-oriented programme for Medical physicists.

MSc. in Nuclear Science commenced in 1982 in collaboration with the Atomic Energy Authority. The main aim of this course was to meet the needs of the expanding fields of research and industrial applications of nuclear technology in Sri Lanka. Both these degrees are essentially important for professionals attached to related industries.

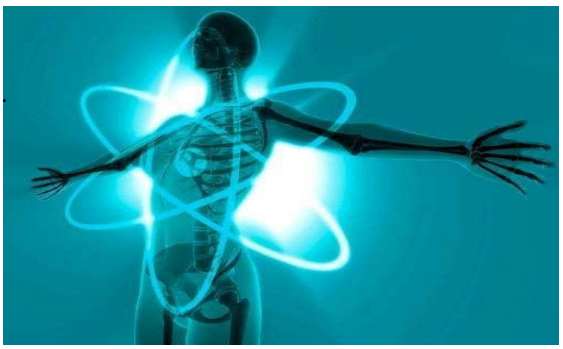
In addition to the master's Degrees, we offer Diploma course in Radiation Protection. The main objective of this course is to develop necessary

skills in researchers and radiation workers to work with radiation and radioisotopes while minimizing the radiation exposure to themselves and their colleagues at the work places.

Research Programmes

Academic staff of the department is specially trained in research in various fields of ionizing radiation. Main areas of research carried out by the researchers in the department are related to environmental radioactivity, nuclear analytical techniques in pollution monitoring with honours reference to heavy metals, medical physics and applications of Nuclear Techniques in elemental analysis.

Our lecturers work in collaboration with the state and private institutions for research and teaching such as the SLINTEC and Sri Lanka Atomic Energy Board



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Department of Physics

Established in 1921, the Department of Physics of the University of Colombo owns a rich history and remains as a prestigious institution promoting Physics education in the region. Undergraduate and postgraduate degree programmes under a variety of physics and technology related themes are being currently offered. The department also actively promotes research & innovation which enriches overall student learning and supports extension programs to uplift skills development.

Academic Programmes

Undergraduate

BSc Degree: The department offers a 4-year BSc Honours Industrial orientation degree under the specialized theme, **IT & Electronics** (intake 20). The aim of the programme is to produce graduates ready to take on 21st century challenges in the industry.

BSc Honours Degrees: Students are selected on a competitive basis (10 per theme) to follow degree programmes in **Physics, Engineering Physics** or **Computational Physics.** The programmes enable students gain contemporary knowledge in Physics and an apt towards research. Graduating students often continue postgraduate studies or take up industrial jobs.

Postgraduate

Master's Degree Programmes: Postgraduate diploma/ Masters in science degree programmes under the themes **Applied Electronics** and **Physics Education** are currently being offered. The programs help students build essential skills as a professional in the respective fields.

Research Degree Programmes: More than 25 students pursue research degrees (M.Phil. / Ph.D.) at the department. Research programmes are primarily funded by state agencies which facilitate collaborative research and outcomes on par with international standards. Graduating students secure positions in academia, R&D or pioneer a spinoff company through research innovation. Active research is conducted under the following research themes;

Atmospheric and Lightning Physics

- Astronomy & Space Science
- Biomedical Imaging Physics
- Biophysics
- Condensed Matter Physics
- Computational Physics
- Renewable energy technology
- Robotics

Extension Programmes

The department further contributes towards national development by extension programmes. Following custom designed special workshops are conducted by the department on a regular basis;

- Electronics for A/L Teachers
- Electronics & IT for technical staff

Services

The Department offers a wide range of services and consultancies to the state and private sectors and the general public. The areas include;

- Lightning protection
- Industrial automation
- Innovative materials
- Radiation measurements
- Physics teaching aids and lab apparatus

In addition, the department provides national training camps for school students selected for International and Asian Physics Olympiad, International Astronomy and Astrophysics Olympiad and Junior Science Olympiad Competitions.

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Department of Plant Sciences

Teaching and research in the department are amply supported by, teaching and research laboratories, lecture theaters with audio visual facilities, plant houses and a herbarium. Facilities are also available for tissue culture, molecular biology, microbiology, ecology, plant identification, phytochemical analyses and computing, as well as for field work.

Academic Programmes

Undergraduate

BSc / BSc Honours Degree Programmes:

The courses a student may offer from the department in the first two years of the BSc or BSc Honours degree programmes are diverse and have been designed to address all aspects of Plant Science at a fundamental level.

Students opting for the BSc Programme (BSc Degree; 3-year duration) have the opportunity to select in their third year, courses that cover highly applied aspects of the field, such as plant pathology, horticulture, plant breeding, microbiology and plant tissue culture.

Students who wish to proceed to BSc Honours Degree Programme (4-year duration with industrial orientation) under the theme “Horticulture and Sustainable Landscaping” will be provided courses that cover highly applied aspects of the field such as horticulture, landscaping, plant breeding, tissue culture as well as development of a business plan, and a component of industrial training in the fourth year.

The department offers three BSc Honours Degree Programmes (4-year duration with academic / research orientation) in which students may opt to specialize in one of the following subject areas in their third and fourth years of study:

- Plant Science
- Plant Biotechnology
- Bioinformatics

The BSc Honours Degree Programme in Plant Science provides an excellent training opportunity, especially in field- based plant science courses, and caters to students who wish to develop and enhance their skills in areas of biodiversity conservation, environmental science, taxonomy, ecology, and many other subjects of Plant Sciences.

The BSc Honours Degree Programme in Plant Biotechnology enhances the knowledge and practical skills of the students specifically in a wide array of plant-based industries. Students are exposed to several employment-oriented courses. Industrial exposure and the relevant practical activities of the course modules will advance their careers by broadening their practical skills and understanding of this dynamic field.

The BSc Honours Degree Programme in Bioinformatics is offered for the first time in the country and provides training in analysis and management of biological data using information technology.

Postgraduate

The department at present conducts two M.Sc. degree programmes with a strong research component.

- Plant Cell and Tissue Culture
- Agricultural Microbiology

In addition, students work on postgraduate degrees (MPhil/PhD) by research, on different disciplines related to Plant Sciences.

Research Programmes

The research conducted in the Department has strong links with research centres, government institutes and industry. Currently there are more than 15 postgraduate students reading for research degrees (MPhil/PhD) working in the department, under the able supervision of senior academic staff.

Academic staff is engaged in projects of the state Ministries and industry through which knowledge is disseminated.

Services offered

Herbarium - The herbarium in the Department of Plant Sciences houses over 3000 plant specimens of higher and lower plant families and about 100 macro fungi species.

Vegetation surveys and microbial testing of samples of plants, water and soil are offered upon request.

The academic staff is heavily engaged in the commercialization-oriented research through the Colombo Science and Technology Cell.

Diploma Courses / Extension Programmes

The Department conducts the following Diploma and Certificate courses;

- Diploma in Biodiversity Management (DBIOM), jointly with the Department of Zoology & Environment Sciences,
- Diploma in Microbiological Techniques, and
- Online certificate course in Bioinformatics.

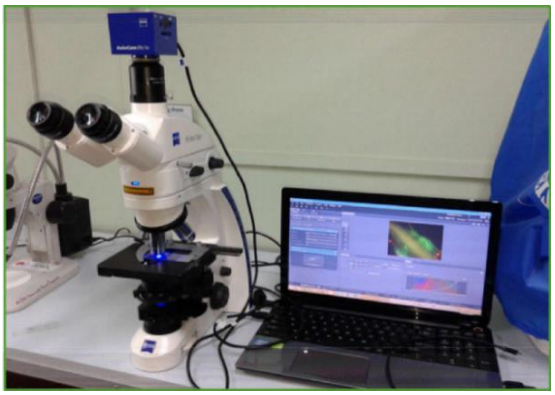
The Diploma in Biodiversity Management is a multidisciplinary course intended for persons wishing to pursue a career in the field of biodiversity

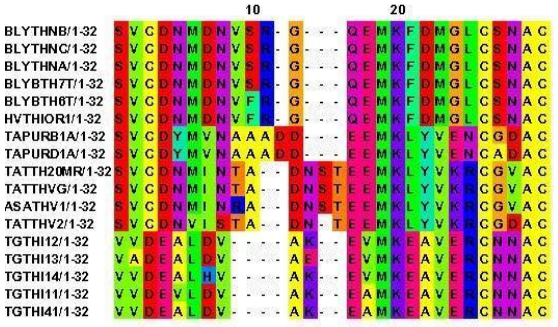
assessment, conservation and sustainable development.

The programme is delivered through a variety of teaching modes, including e-learning, classroom lectures and discussions, laboratory and field practicals.

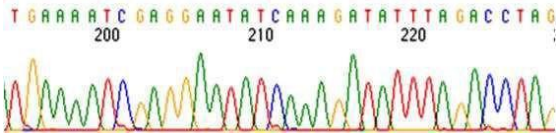
The Diploma in Microbiological Techniques addresses the application of the multi-faceted discipline microbiology. This programme is specially designed to produce a high caliber employee, competent in the microbiological techniques in biotechnology and agriculture-based industries.

The online certificate course in Bioinformatics offers basics in this newly emerged field in science and bioinformatics, which utilizes computer techniques





to understand the behavior, structure and function of Biological molecules. This course provides basic knowledge in Bioinformatics and hands-on experience in the application of techniques and tools in Bioinformatics to real biological data.



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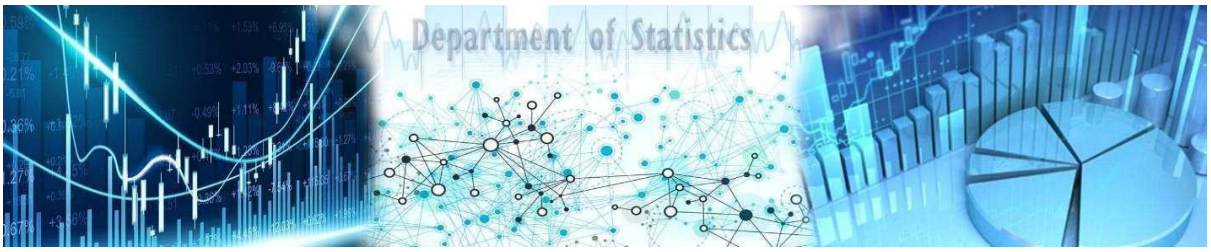
Department of Statistics



The Department of Statistics (DST) is the first Statistics Department formed within a Faculty of Science in the present university system in Sri Lanka.

It was formed in June 2001. Although DST is a young department, it offers many undergraduate and postgraduate statistics courses that are at the forefront of current knowledge and practice. The department originated as a Statistical unit which was first under the Department of Mathematics. The link between this Unit and the Department of Applied Statistics, University of Reading, UK, during the period 1974-1984 led to the major development of Statistics courses in 1985.

The vision of the DST is to be a center of excellence in Statistics in Sri Lanka. Statistics plays an important and ever-increasing role in many fields and specializations. The mission of the department is to develop and offer programmes that will produce quality graduates who are highly employable excelling both in the academia and industry, contributing towards the field of statistics.

The department currently offers diverse and flexible tracks and/or double majors that will make its students highly competitive in the job market.

Academic Programmes

Undergraduate Degrees

BSc Degree

The DST offers Statistics subjects from the first year onwards to students in Physical Science in the Faculty and the UCSC. It also offers the degree programme Industrial Statistics & Mathematical Finance (IS&MF) jointly with the Department of Mathematics, for a direct intake of 90 students. The Department offers around 70 course modules for a given year and interacts with around 1200 students.

BSc Honours Degrees:

DST currently conducts THREE research oriented BSc Honours Degree programmes namely "Statistics" (ST), “Statistics with Computer Science" (ST+CS) and “Industrial Statistics" (IS) catering both academia and industry. Focusing on the demand by the industry for graduates with a sound knowledge of Statistics, together with computing, management and numerical skills, the DST offers ONE more industry oriented BSc Honours degree programme in Applied Statistics from the year 2015.

Postgraduate Degrees:

The DST has been conducting the Postgraduate Diploma/M.Sc. in Applied Statistics since 1974.

The DST also offers a two-year part-time course leading to an M.Sc. Actuarial Science. This programme is conducted with the guidance from the

Institute and Faculty of Actuaries of the United Kingdom.

The Department also has an M.Phil. / Ph.D. programme with around 10 students currently pursuing research in different areas of Statistics.

Research Programmes

The DST enjoys several areas of strength in research. It has expertise in areas such as Medical Statistics, Operational Research, Sample Surveys, Linear Models & Multivariate Methods, Statistical Modelling, Data Mining, and Quality Control. DST academics have published many research articles in peer-reviewed journals and have made several presentations at international / local fora.

Center for Data Science

The Center for Data Science is established as the research and development unit of the Department of Statistics to engage in and facilitate research and development in Data Science tools and techniques and to bridge the gap between academics and industry in the field of Data Science.

It facilitates collaboration between academics and industry, both foreign and local, through research, enhancement programmes and Consultancy projects. Further it provides opportunities to undergraduates and postgraduates to pursue careers as data scientists who are currently in high demand locally and internationally.

Services

The Department offers a variety of services to both internal university community as well as to the outside community. Namely, it offers,

- assistance in data analysis from simple to advanced problems.
- assistance in designing, conducting, and analyzing surveys.
- statistical advice for researchers on various experiments, and projects.
- assistance in statistical computing.
- short courses, workshops, and seminars on statistics for the public and private sector.
- training courses in statistical computer packages, such as SPSS, R.
- assistance in designing, conducting, and evaluation of recruitment tests.
- the Department, through its newly formed Center for Data Science, are involved with collaborative projects related to date science.

While offering services to the outside community through collaborative projects and consultancies, the Department also offer their services to university internal community free of charge

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Department of Zoology & Environment Sciences

The Department of Zoology and Environment Sciences offers a comprehensive programme for students entering the Faculty of Science, which embodies the subject areas of Zoology, Environmental Science, Molecular Biology and Immunology. The programme is so designed not only to provide students with a sound knowledge in these subject areas, but also offers opportunities to develop and improve their communication and other generic skills that would increase their employability.

In keeping with the major curriculum revision in 2003 and several others including one in 2012, which have taken into consideration the emerging trends in global education development and national employment, the department has incorporated new subject areas as well as modern teaching, learning and assessment techniques. The programme is well balanced and incorporates both in-class teaching and field-based learning components. Students also engage in many activities outside their academic programme that helps to vastly improve their communication and interpersonal skills.

The Department of Zoology and Environment Sciences is particularly known for the friendly staff that makes every effort to provide the students with a pleasant and fruitful learning experience in the university.

Academic Programmes

Undergraduate Programme

BSc Degree: Zoology and Environment Science are offered as subjects for the three-year BSc degree offered by the Faculty of Science. The courses have been designed with a view to provide a fundamental knowledge in Zoology and Environment Science in the first and second years and introducing the multidisciplinary nature and applied aspects in the third year.

BSc Honours Degrees: The department offers three BSc Honours degrees and students may specialize in any one of the following programmes:

Research Orientation

- Zoology
- Environmental Science
- Immunology & Integrative Molecular Biology

Industry Orientation

- Business and Environment

Students who are selected to these programmes must follow a set of courses, which covers the necessary fundamental and applied aspects of the specialized areas.

Many final year research projects of our BSc Honours degree students now cover inter-disciplinary areas where our academics, supervise projects with several others who are drawn from diverse fields such as, clinicians from the national hospital system, engineers, research scientists from government and private sector organizations as well as academics from other universities.

Postgraduate Degrees

The Department also offers a Master's Degree in Environmental Science (2 years) and a Postgraduate Diploma in Climate Change & Environment Management (1 year). The teaching staff of these programmes includes members of the department and many leading professionals / experts in various fields of environment science outside the university, who add value to these programmes due to their professional experience in their relevant field. The programmes cover a multitude of disciplines such as cleaner production, climate change, environmental policies and laws, ecotoxicology, disaster risk reduction and biodiversity and natural resource management.

Postgraduate Research

The Department provides the opportunities for suitably qualified graduates to undertake postgraduate studies leading to both M.Phil. and Ph.D. degrees, under the supervision of its staff members.

The Department excels in its research capabilities providing research opportunities in diverse fields such as Wildlife Ecology, Eco-tourism, Ornithology, Evolutionary Biology, Limnology, Ecotoxicology, Natural Disaster Management, Environmental Modeling Climate Change, Immunology & Molecular Biology of human and animal diseases, Conservation Biology, Entomology, Human Genetics, Reproductive Physiology and Aquatic Biology under the guidance of its academic staff members. Much of this research work is published in both local and international journals. The postgraduate research programmes of the department enriches the undergraduate programme by providing opportunities for students selected for the BSc Honours degree programmes to participate in some components of on-going research activities.

Other Programmes

The department also conducts two other programmes for external students. The newest addition is the Diploma in Wildlife Conservation (9 months) which is conducted in collaboration with the Department of Wildlife Conservation (DWLC) for park rangers. The other is the Diploma in Biodiversity Management (1 year) which is conducted jointly with the Department of Plant Sciences for nature enthusiasts.

Academic Staff

Head

Professor D. D. Wickramasinghe

BSc, M.Sc., Ph.D. (Colombo)

Environmental Science & Biodiversity Conservation

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Professor Emeritus W. D. Ratnasooriya

BSc (Colombo), Ph.D. (Strathclyde)

Reproductive Physiology

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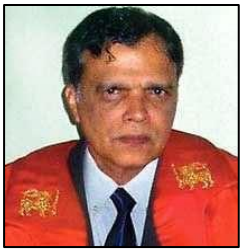

Professor Emeritus S. W Kotagama

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Ornithology

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Senior Professor P. V. Udagama

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Immunology

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Dr. C. D. Dangalle
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Dr. G. Galhena
BSc (Colombo), M.Sc. (Leeds) Ph.D. (Colombo)
Molecular Genetics
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Dr. Inoka C. Perera

BSc (Colombo), Ph.D. (Louisiana State)

Molecular Biology

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Dr. Sampath S. Seneviratne

BSc (Colombo), Ph.D. (Memorial - Canada)

Molecular Ecology | *Evolutionary Biology*

sam@sci.cmb.ac.lk

Dr. D. Halwatura

BSc (ENCM) (Kelaniya), Ph.D. (UQ)

Hydrometeorology & Environmental Modelling

devan.halwatura@zoology.cmb.ac.lk

Dr. R. N. M. Jalaldeen

BSc (Bangalore), M.Sc. (Colombo), Ph.D. (Colombo)

Tumor Immunology/Infectious disease and Immunity

roshan.niloo@zoology.cmb.ac.lk

Dr. A. Witharana

BSc (USJP), M.Sc. (UNESCO-IHE), M.Sc. (Moratuwa), Ph.D. (Moratuwa)

Water and wastewater treatment/Environmental management

ayomi@zoology.cmb.ac.lk

Dr. V. A. K. Fernando

BSc (Colombo), PhD. (Colombo)

Ecotoxicology

vindhya@zoology.cmb.ac.lk

DIRECTORS OF STUDY

The Directors of Study are responsible for the Faculty of Science undergraduate and postgraduate programmes. The Undergraduate Director of Study is the chairperson of the Curriculum Development and Evaluation Committee (CDEC) of the Faculty of Science. Information and clarifications of the degree programmes could be obtained from the Directors of Study

Director of Study - Undergraduate Degree Programmes.

Senior Professor T. D. Silva

Department of Plant Sciences

Director of Study - Postgraduate Degree Programmes.

Professor M. R. Wijesinghe

Department Zoology & Environment Sciences

ACADEMIC ADVISORS

Chemistry	:	Professor D.P. Dissanayake
Mathematics	:	Dr. D.R. Jayawardene
		Mr. M.H.K.M. Hameem
Nuclear Science	:	Dr. M.R. Lamabadusuriya
Physics	:	Dr. M.S. Gunewardene
Plant Sciences	:	Dr. P.S. Saputhanthri
Statistics	:	Dr. C.H. Magalla
Zoology& Env.Sci	:	Dr. I.C. Perera

Molecular Biology & Biochemistry Programme

Prof. R.S. Dassanayake (Chemistry)

Computer Science Courses

Mr. Anjana Bandara, (Statistics)

COORDINATORS

Enhancement Course Advisors

Dr. J. K. Ratnayake (Mathematics) (Chairperson)
Dr. I. C. Perera (Zoology & Env. Sciences)
Professor C. Hettiarachchi (Chemistry)
Dr. I. A. J. K. Dissanayake (Plant Sciences).

Sinhala & Tamil Language Course Coordinators

Dr. H.I.U. Caldera (Plant Sciences)

Dr.K.G.D.A.D.Tillekaratne (Chemistry)

Internship Programme/ Service Learning Programme and Personality & Career Development Course Units

Professor D.D. Wickramasinghe (Zoology & Env.Sci.)

Professor C. Hettiarachchi (Chemistry)

Co- Directors, Career Guidance Unit

EXAMINATIONS AND REGISTRATION

Senior Assistant Registrar/Examinations

Ms. T.J. Ekanayake

Assistant Registrar/Registrations

Mr. Kapila Gunasinghe

SCIENCE LIBRARY

The Science Faculty Library which is located in the faculty premises is a part of the Central Library of the University of Colombo.

Resources:

The library contains around 30,000 books and journals, a thesis collection and a CD collection. Annually it subscribes to around six electronic databases with full-text access facilities.

Services:

Many services such as Inter Library Loans (ILLs), access to E-resources, photocopying service and user education programmes are conducted by the Library. The library offers an “Information Skills Development Programme” for the first year Undergraduates as an Enhancement course

STUDENT COUNSELLING & WELFARE SERVICES

Every student has the opportunity of seeking advice and assistance from a student counsellor in academic and other matters related to their undergraduate work.

Senior Student Counsellor

Dr. G.R.P. Silva (Dept. Of Human Resource Management) 0702211311

Assistant Student Counsellor

Ms. N.K. Kulasekara

Permanent Student Counsellor-Faculty of Science

Dr. R.A.B. Abegunawardana (Statistics)

Student Consellors

Dr. B. S. S. Senavirathne (Zoology & Env.Sci.)
Dr. J. K. Ratnayake (Mathematics)
Dr. S.D. Viswakula (Statistics)
Dr. G.P. Lakraj (Statistics)
Dr. J. Jeyasugiththan (Nuclear Science)
Dr. A. M. Wickaramasuriya (Plant Science)
Dr. A. C. Mahasinghe (Mathematics)
Dr. N.I. Abeyasinghe (Chemistry)
Dr. Gayathri de Silva (Chemistry)
Dr. Monika Madhavi (Physics)

Assistant Registrar/Student and Staff Affairs

Mrs. L.D.G.G. De Silva

Marshal Office

Marshals have been appointed to assist the authorities to discipline within the University premises. They are graduates with professional qualifications and are capable of handling issues pertaining to discipline in University life. Marshals will intervene in instances of misconduct and breakdown of law and order and they have to report to Police or relevant University authorities especially to Senior Counselor. They are duty-bound to intervene in any indiscipline or misconduct within University premises and at hostels.

Mr. P.S.P.Direcksze - Deputy Chief Marshal
Tel - 0112583107

Mr. A.V.P.D. De Silva

Mr. N.D.V. Anura

Mr. S.I.N. Rajapakshe

Mr. A.P. Enderage

Mr. D.I. Easwara

Mr. A.W.A.C. Abesekara

Ms. S.A.D.D. Kalyani

Mr. C.W.M.P.T. Chandrasekara

Mr. B.K.C.P. Balasooriya

Mr. E.S. Pradeep

Mr. K.G.S. Lanka Chandra

Mr. K.T.S.L. Karunadasa

Ms. K.M.S.S. Konara

Ms. H.M.S.N. Herath

Ms. P.I. Wanasinghe

Ms. R.K. Senadheera

Mr. W.N.S. Wickramage

Mr. S.C. Kavirathne

The Following assistance and services are available at the Student and Staff Affairs Branch, College House.

- Payment of Mahapola and Bursary.
- Hostel Accommodation.
- Other scholarships such as E.E.T.C.S. Commercial Bank, Mitsubishi etc.
- Canteen and photocopy service in each faculty.
- Students' Union and Students' Societies.
- Arts Council.
- Students' Season Tickets.

DEPARTMENT OF PHYSICAL EDUCATION

Sports and related activities including physical fitness programmes and motivation & leadership programmes are organized by the Department of Physical Education. All students are entitled to use sports facilities for 22 games available at the department.

Inter-Faculty, Fresher's Tournaments and Open Meets are annually conducted and those who are qualified will have the opportunity to participate in Inter University Games/Championships, International Tournaments and Asian/World University Games/Championships.

Participants in the Inter University Games are awarded the University Colours at the Colours Awarding Ceremony which is held once a year.

Acting Director/Physical Education:
Mr. Ajantha Dahanayake

Instructors in Physical Education
Ms. Srimalka Gunasekera

Ms. Wasantha Rathnayake

Mr. Sanjeewa Jayasinghe

Ms. Nayanthi Chandrasena

Mr. Sujan Walgampaya

Contact No Office – 0112 502405
Intercom – 8646 / 8647
email – physicaleducationcmb@gmail.com

Badminton	Men
	Women
Baseball	Men
Basketball	Men
	Women
Beach Volleyball	Men
	Women
Carrom	Men
	Women
Chess	Men
	Women
Cricket	Men
	Women
Elle	Men
	Women
Football	Men
Hockey	Men
	Women
Karate	Men
	Women
Netball	Women
Road Race	Men
Rowing	Men
	Women
Rugby	Men
	Women
Scrabble	Men
	Women
Swimming	Men
	Women
Table Tennis	Men
	Women
Taekwondo	Men
	Women
Tennis	Men
	Women
Track and Field	Men
	Women
Volleyball	Men
	Women
Weightlifting	Men
Wrestling	Men

HOSTELS

Extremely limited hostel accommodation is available. The hostels maintained by the University and their respective wardens are listed below.

Sujatha Jayawardena (**Women**)

Dr. A.M.K.S.A. Boyagoda (Demography)

De Saram (Women) (Medical)

Dr. Santhushi Amarasooriya(Behavior Science)

Havelock Road (Women)

Dr. Dilrukshi Abeysinghe (Sociology)

Kittiyakara (**Men**)

Mr. W.J.S.S. De Silva (Sociology)

Muttaiah (**Women**)

Mrs. G.P.V.D.R. Silva (Pol.Sci.)

De Saram (**Women**) (**New**)

Ms. S.N.K. Mallikahewa (Economics)

Blomfontein (**Men**)

Dr. M.R.N. Cassim (Surgery)

Thelawala (Women)

Dr. N.R.Wijesekara (Private & Comparative Law)

Thelawala (Men)

Mr.WMSPK Wanasinghe (English Language Teaching)

Hewa Mawatha (Women)

Mrs. Shashi Weerawansa (Economics)

In addition to the above hostels, the following houses have been rented out to accommodate students.

No. 71/3, Green Path, Colombo 7

(Bhikku students)

Dr. B.A.C.A. Balasooriya (Int.Relations)

No.290/3, Maharagama Rd, Boralasgamuwa. (Men)

No 286, Rajagiriya Road, Rajagiriya

Mr. E.R.A.D. Bandara (Statistics)

UNIVERSITY HEALTH CENTRE

Chief Medical officer
Dr. K.D.I.Wasudeva (M.B.B.S, D.F.M)

University Medical officers
Dr. M.A.P.W. Prematilake (M.B.B.S)
Dr. A.R.P. Rathnayake (M.B.B.S)

The University Health Services have been organized to assist students of the University to lead an active and healthy life free of mental and physical ailments. These services have been extended at present and health service facilities are provided for University employees as well.

There are two Medical Centers in the University. The main and the large Center is situated at Reid Avenue next to new arts theater, while the other is at the Medical Faculty. On weekdays these Centers are open from 8.30 a.m. to 3.45 p.m. except during the lunch interval between 12.30 p.m. and 1.30 p.m. These Centers are managed by qualified medical and nursing staff for out-patient treatment. Patients requiring honours treatment or who need to be hospitalized will be directed to the University Clinics at the Colombo Group of Hospitals.

Dental treatment service is available on Monday, Wednesday and Friday morning at the University of Colombo health center.

1. Medical Examinations

Medical examination forms are sent to all students along with their registration documents. Completed Medical Examination reports sent by students will be filled in the health centre. In case of any ailment comes to light in this medical report, student will be directed to appropriate specialist clinic for treatment.

2. Vaccination

On occasions when it becomes necessary the University Health centers will make arrangements for vaccination against tuberculosis, typhoid, and other disease. In case a student has any problem regarding vaccination, he/she is advised to contact the staff of the Health Centre.

3. Medical Counseling

Any student who need to discuss his/her personal health problems should meet University medical officer and if further help is need from psychiatrists or psychologists, student will be directed to the relevant University clinics.

4. Laboratory testing Facilities

Laboratory Testing Facilities for all University students and staff are available in the Medical Faculty and at the Reid Avenue Health Centre.

5. Environmental Health

The University health service is responsible for the maintenance of the environmental health within the University premises. A public Health Inspector in charge of this field is in the University staff. Employees in University canteens restaurants and student hostels are also medically examined periodically to ensure that they are healthy and do not carry diseases. University canteens, hostels and buildings are periodically examined by the PHI.

6. Other Services.

I. Issuing medical certificates to staff and students when indicated.
II. Recommendation of Honours medical leave for students.
III. Specialist advice and inpatient care is available on referral at the National Hospital of Sri Lanka.
IV. Honours medical examination for scholarships and sports activities.
V. Routine medical examination of new recruits.
VI. Issuing Medical certificates for driving license.
VII. Medical tests for extension of services of staff.
VIII. Supply of available medicines on long term for chronic illnesses (only for staff and students

7. Regulations regarding Medical Certificates.

1. All students who are unable to appear for theory and / or practical component of examinations / lectures due to medical reasons should submit a Medical Certificate issued by the Chief Medical Officer (CMO) / University Medical Officer (UMO) of the University of Colombo or a valid Medical certificate recommended by the CMO / UMO if they seek relief.
2. Such students should make a request in writing (by telegram to the Dean of respective Faculty or SAR /Examinations) for relief indicting the reasons for such absence within 3 (three) working days from the date of absence for such examinations, lectures, or practical components.
3. Students are advised to strictly adhere to the following guidelines in this regard. Failure to follow the guidelines may result in the Medical Certificates not being accepted and the absence being treated as one without valid excuse

i.

(a) A student who falls ill during a period of examination should report to the Chief Medical Officer (CMO) / University Medical officer (UMO) of the University of Colombo. The CMO/UMO will examine the student and issue a Medical Certificate, if necessary.

(b) Where the CMO/UMO decides to issue a Medical Certificate, he/she will be forwarding it to the Dean of the relevant Faculty and/or the SAR/Examinations. It will be done within a period of two weeks. The Student in question is advised to verify with the Dean of the relevant Faculty or the SAR/Examinations whether the Medical Certificate had been received from the CMO/UMO.

ii.

(a) A student who resides outside Colombo city limits and falls ill during a period of examination or who finds it difficult to report to the CMO/UMO due to seriousness of the illness, should get treatment preferably from the nearest Government Medical Institution, or in exceptional cases from Registered Medical Practitioners or Institutions.

(b) In such instances, he/she should follow the procedure given below with regard to submission of medical certificates:

All Medical Certificates other than those issued by the CMO/UMO with the aim of informing the Dean of the respective Faculty or the SAR/Examinations, should be forwarded to the CMO/UMO along with attached application form (when applicable) within 7 (seven) days from the last date of recommended medical leave.

Students should submit the details of the examination (theory paper) which he/she was unable to appear by filling the relevant form. Through student information systems (SIS) and handover the printed copies to the office of the Dean, Faculty of Science within 14 days of the examination.

Students who are absent at the practical examinations, and submitted the Medical certificate to have UMO, are informed to collect the MC from office of the Dean/office of the relevant department and handover to his/her relevant practical Supervisor at the Department.

iii.

(a) CMO/UMO shall have the discretion to decline to give her/his recommendations or observations on the Medical certificate submitted and received after the above period.

(b) The following categories of Medical Certificates will only be accepted by the UMO/CMO for consideration when they are submitted in terms of the above guidelines:

i. Medical certificates issued by a Government Hospital /District Medical Officer

ii. Medical certificate issued by a Private Medical Practitioner only in the case of leave for less than five days; provided the CMO/UMO at their discretion, in appropriate cases may consider accepting a Medical Certificate issued by a Private Practitioner where the nature and seriousness of illness and the treatment administered, in the opinion of the CMO/UMO are acceptable.

iii. The CMO/UMO may request the following documents of further proof of the illness.

- Receipt or payment for the Medical Certificate from Government Hospital.
- Prescriptions of the medicines taken.
- Reports of the blood tests, etc.

(If the required documents are not submitted the application may be rejected)

(i) The CMO/UMO shall not take any responsibility for the acceptance or rejection of Medical Certificates issued by any outside institution. It will be the responsibility of the student who has sought medical assistance from such institution. If and when necessary, the University medical officer arranges a Medical Board to consider a request for medical leave by a student.

CAREER GUIDANCE UNIT

Why Career Guidance?

Today, academic knowledge singlehandedly does not suffice to grow and excel in professional and personal life. Therefore, career and personal development are essential aspects of undergraduate training.

It is important that our graduates not only be academically and technically sound, but also have the knowhow in other personality fronts. Thus, it is essential to develop transferable / life skills, attitudes, beliefs, and behaviors of undergraduates that would eventually lead to both their professional and personal success.

Vision:

Guiding and providing required resources to support career & life aspirations of undergraduates of the Faculty of Science.

Mission:

To become a center of excellence to empower students with the required knowledge and experience to mold and fortify their professional, higher educational, career and life aspirations through a well-crafted series of events and programmes.

Objectives:

- Helping students to profile themselves and realize their true potential within the realm of their personality.
- Creating an environment where students identify personality development in themselves in relation to professional expectations.
- Introducing the students to the world of work and its dynamics.
- Helping the students transform their academically strengthened knowledge to suit industry and academia.
- Helping develop a robust career / life plan for oneself and make the right decisions in life.

Career and Personal Development (CPD) Programme

The aim of the CPD programme is to complement the academic programmes of the Faculty by providing a sequentially structured and supported process to enable undergraduates to achieve attributes that would lead to their professional and personal success.

Following an introductory workshop on career and personal development at the orientation programme for new entrants, a one credit Enhancement course on CPD is offered at each of the Levels I and II of the undergraduate study programme (i.e. EC 1015 and EC 2015). Enhancement courses on Career Planning (EC 1016) in Level I and Enterprise, Entrepreneurship and Innovation (EC 2020) in Level II are also offered. This exposure is continued in Levels III and IV by offering a two-credit Enhancement course on CPD conducted by the Association of Human Resource Professionals, Sri Lanka and the programme culminates in the three-month Internship Training (FS 3001) and Service Learning (FS 3002) that count for 06 and 08 academic credits respectively.

Level I – "Discovery"

The first year programme revolves around Self-Discovery and takes you through a maze of topics and tools, so that you understand your potential and mould your thinking to build a career / life plan for your future.

- EC 1015 - Career and Personal Development I
- EC 1016 - Career Planning

Level II – "Mastery"

The second year involves the infusion of skills required by professionals. The skills training will be conducted by industry specialists with specific domain knowledge, e.g., presentation skills by Toastmasters.

- EC 2015 - Career & Personal Development II
- EC 2020 - Enterprise, Entrepreneurship, and Innovation

Level III – "Professionalism"

The Association of HR Professionals (AHRP) of Sri Lanka will conduct a series of sessions to build confidence and prepare you for post-graduate studies or a life of work ahead. The AHRP will build bridges to help you to cross over into the life of a professional. The internship and service learning courses listed below are academic courses that will provide you with hands-on experience in the world of work.

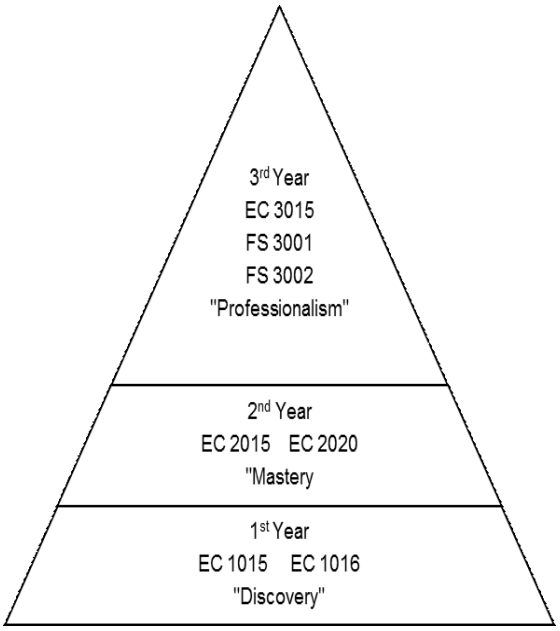
- EC 3015 - Career & Personal Development III

- FS 3001 - Internship Training
- FS 3002 - Service Learning

Career Related Learning Pyramid

Career-related learning is a process of learning, designed to help students to develop the knowledge, confidence and skills they need to make well-informed, relevant choices and plans for their future, so they can progress smoothly into further learning and work.

The following pyramid outlines the comprehensive programme on career and personal development of our faculty.



Eligibility Criteria of Academic Courses

Internship Training (FS 3001)

The training is for 12 weeks full time or the equivalent thereof and is worth **6 academic credits.** Selection to the programme will be based on the following:

Satisfying the degree requirements for the first two years

a) Completing a minimum of 15 credits in the fifth semester of which 12 should be from core courses.
b) Obtaining a GPA of 2.50 by the end of the 4th semester. Students with a GPA between 2.45 and 2.50 will be interviewed and possible candidates will be selected.
c) Satisfying the enhancement course requirements by the end of the fifth semester (Students who followed the EC 1015 & EC 2015 are given priority)
d) Obtaining at least a 'Meritorious' grade for the enhancement course on Career and Personal Development III (EC 3015)

Important:

A student registered for the Internship Training, cannot revert back to register for 6 regular academic credits by course work within the same semester after the period allowed for registration has elapsed. If a student re-registers for academic credits by course work in the following year it will be considered as his second attempt.

Service Learning (FS 3002)

The duration of this programme is 6 months part time and it is worth **8 academic credits.**

For this programme, at least 400 hours of engagement are expected and evaluated. Selection to the programme will be based on the following:

(a) Satisfying the degree requirements for the first two years

(b) Obtaining a GPA of 2.30 at the end of the 4th semester. Students with a GPA between 2.30 and 2.50 will be interviewed and possible candidates will be selected.

Important:

A student registered for the Service Learning, cannot revert back to register for 8 regular academic credits by course work within the same semester after the period allowed for registration has elapsed. If a student re-registers for academic credits by course work in the following year it will be considered as his second attempt.

Career Guidance Committee

We are a group of dedicated volunteer academic staff members who help students to develop their soft skills. We work closely with students who are interested in exploring opportunities and developing themselves.

With the unstinted support from various corporate sector partners, enthusiastic alumni and well-wishers, opportunities to gain experience are plentiful and continuously growing.

Co-directors:

Professor Deepthi Wickramasinghe (Zoology & Env.Sci)

Professor Chamari Hettiarachchi (Chemistry)

Secretary:

Dr. Gayani Galhena (Zoology & Env.Sci)

Subcommittee Chairpersons

EC 1015:

Dr. Chandrika Nanayakkara (Plant Sciences)

Dr. Hiran Jayaweera (Physics)

EC 1016:

Dr. H.D.D. Bandupriya (Plant Sciences)

EC 2015:

Dr. E.Y.K. Lokupitiya (Zoology & Env.Sci)

EC 2020:

Dr. Dilushan Jayasundara (Physics)

Dr. Devanmini Halwatura (Zoology & Env. Sci)

EC 3015:

Dr. Iroja Caldera (Plant Sciences)

Dr. Sameera Ariyawansa (Plant Sciences)

FS 3001:

Professor Chamari Hettiarachchi (Chemistry)

FS 3002:

Dr. Sameera Ariyawansa (Plant Science)

Dr. Devanmini Halwathura (Zoology & Env. Sci)

4 year BSc Honours industrial orientation in Science & Management

Career Guidance Unit offers a 4-year BSc Honours industrial orientation degree in Science & Management to the physical science & Bio Science students from year 2018.This 4-year degree is designed to provide students with a solid background in science as well as a grounding in managerial skills.

Career Guidance Unit Office

Address: Career Guidance Unit Office, Ground Floor, Department of Zoology & Environment Science, Faculty of Science, University of Colombo.

Tele: 011 258 0848
Website: science.cmb.ac.lk/cgu/
Email: cgu@sci.cmb.ac.lk

"Believe in Achieving"
Career Guidance Unit
Faculty of Science

INFORMATION AND COMMUNICATION TECHNOLOGY SERVICES

The use of computers in academic activities has now become an indispensable factor in higher education. The Faculty handles and manages the ICT infrastructure and provides a range of ICT related facilities and services for the staff and the students. The faculty intranet connects all the buildings in the faculty. Wireless hotspots are available all-round the faculty. The faculty intranet is connected to the internet through the Lanka Education and Research Network (LEARN). The main IT services provided includes the Student

Information Systems (SIS, mscSis, pgSIS), Learning Management Systems (LMS, edpLMS, mscLMS), online public library access catalogue OPAC, Email (Google Apps) and FOS media (Faculty of Science Media). The Faculty of Science is equipped with two main Information Technology Units (ITUs)

Information Technology Unit 1 (ITU1)

Coordinator Dr. Hiran Jayaweera (Physics)

The ITU1 is situated behind the main Chemistry building. It is a walk-in computer laboratory consisting of 35 computers running Windows 7/ Ubuntu 14.04 with fast internet access allowing students to work comfortably on their academic work. Software Development Unit (SDU) and the Faculty of Science Media Unit (FOS media) are located within the ITU1.

- **Software Development Unit (SDU)**

Software Development Unit of the Faculty has developed a number of software applications to expedite various University processes such as examinations and course registrations. The SDU owns and maintains a state-of-the-art server room to host Faculty websites, web apps and the other online services.

- Undergraduate SIS - handles student registration, course registration, examination results, hostel, bursary, and Mahapola for almost all the faculties of the university.
- mscSIS and pgSIS - handles MSc students' and MPhil/PhD students' information of the Faculty of Science
- Maintaining the Learning Management System (LMS) - LMS is used for managing academic materials such as lecture notes and other online activities such as online examinations
- Official email addresses (Google Apps) of the students and staff is also managed by the SDU
- Faculty wi-fi zones are coordinated through the SDU
- **Faculty of Science Media Unit (FOS media)**

Although FOS media is the official media unit of the Science Faculty, it serves as the official media unit of the entire university giving coverage to the major events such as convocations, annual research symposia and university games. FOS media is comprised of SDU staff and the students of the Faculty of Science. Following are the FOS media brands and services.

- FOS TV - Live web TV channel that handles webcasting of university events
- Students Blog - A space for students to showcase their talent in writing (tutorials, poetry, research etc.)
- UOC Rhythm - Online radio channel for university students which is the first ever of its kind in Sri Lanka
- FOS mediaR - Reporting University wide events and other major incidents
- FOS media Events - Twitter feed dedicated to live sport and event updates
- Faculty website is also maintained by the FOS media with the supervision of the Faculty IT committee
- FOS media video production - Videography, editing and production of movies and clips at the request of various faculties, departments and clubs

FOS media owns a fully equipped media studio and provides a wide range of services to the university through photography, videography, photo/video editing and desktop publishing work.
Visit us on http://fos.cmb.ac.lk/, like us on FB/ fos media and follow us on Twitter/fos mediaR or email to fosmedia@fos.cmb.ac.lk

Information Technology Unit 2 (ITU2)
Coordinator - Dr. S.K.P.Eranga (Mathematics)

IT Unit 2 is situated in the top floor (2nd floor) of the Industrial Statistics building which is adjacent to the KG hall and behind the Physics building. This laboratory is the largest teaching lab in the faculty with IT facilities to accommodate a group of 60 students in one sitting. Equipped with high speed internet connectivity and the Learning Management

System, this lab provides a friendly environment for the students and the lecturers to conduct lectures using modern technologies. Apart from functioning as a teaching lab, ITU 2 is also responsible for handling and management of courses for IT stream students in the 4-year BSc Honours industrial

oriented degree degree programme.Currently it handles 53 credits of the aforesaid programme.

- Walk-in IT zone
- 20 computers: Windows XP/7
- Printing & scanning facilities
- Headsets will be provided on request

Computer Lounge & Library
SeniorTreasurer:Dr. R.A.B. Abeygunawardena

The Computer Lounge & Library is located next to the common room adjoining KG Hall. It is a fully air- conditioned computer room and has printing and scanning facilities for students. Batch representatives from each batch contribute in steering and maintenance and providing services for fellow students.

Equipped with high speed internet connectivity the computer lounge provides a friendly environment to the students in their day to day work and educational activities.

COLOMBO SCIENCE & TECHNOLOGY CELL

Colombo Science and Technology Cell (Cell) was established on September 26th ,2013 with the funds from the Higher Education for the Twenty first Century (HETC), Quality Innovation Grant (QIG)-window 4, in order to support the researchers at the Faculty of Science to commercialize their research findings. The HETC project was done by the Ministry of Higher education in order to "enhance the capacity of higher education system and to deliver quality higher education services in line with equitable, social and economic development needs" of Sri Lanka.

If an academic staff member has a technology which can be used by an industry, they are encouraged to submit a Tech Brief follow ed by an Invention Disclosure Form (IDF). Undergraduates and postgraduates can get involved in this process through an academic staff member. The Cell will function as the Tech Transfer office during this process which requires continuous dialog between interested industry partners and the research team. The key steps involved in this process is given below

1. Submission of a Tech Brief and initial evaluation
2. Filling the Invention Disclosure Form (IDF)
3. Evaluation of IDF: Technology Readiness Level (TRL)
4. Decision regarding Intellectual Property (IP) protection
5. Marketing the innovation
6. Licensing the technology

Further details about the Tech Transfer process can be obtained from the link below.

http://science.cmb.ac.lk/cell

Success stories of the Cell

Collaboration with Darley Butler & Co. Ltd: At The product launch "Bio Clean" on November 30th, 2015

Collaboration of Hemas Manufacturing (Pvt) Ltd: At the MOSGUARD Launch on October 10th 2017

How to conduct a productive research project as an undergraduate

The Universities and private companies, world over, carry out a patent landscape search before embarking on new research projects. This approach will help the researchers to gather a lot of information on available technologies while finding gaps in the patent arena to invest the limited resources in the right direction. The Cell can provide useful information in this regard through the Technology Innovation Support Center (TISC) which was established with the technical support from World Intellectual Property Organization (WIPO) and National Intellectual Property Office (NIPO).

NOTE: Dream about inventing from day one! Consider protecting your inventions before publishing!

STUDENT SOCIETIES

There are several societies based in the faculty that promote student interests and activities. They are listed below.

1. Physics Society
   (Department of Physics)
2. Astronomy Society
   (Department of Physics)
3. Colombo Innovation & Robotics Club
4. Base for Enthusiasts of Environment Science and Zoology (BEEZ)
   (Department of Zoology & Env. Sci.)
5. Botanical Society
   (Department of Plant Sciences)
6. Chemical Society
   (Department of Chemistry)
7. Epsilon-Delta Society,
   (Department of Mathematics)
8. Gaveshakayo
   (Department of Physics)
9. Stat Circle
   (Department of Statistics)
10. Science Society
11. AIESEC University of Colombo
12. Catholic Students' Movement University of Colombo
13. Gavel Club of the University of Colombo
14. Rotaract Club of Faculty of Science
15. Students' Association for Industrial and Financial Analysis (SAIFA)
16. SCINTILLA – Nuclear Science Society
    (Department of Nuclear Science)

The Physics Society

The Physics society of University of Colombo is one of the leading student societies registered in the University, and it is the main student body of the Department of Physics of Faculty of Science. The society is an ideal platform for students having great interest in physics to expand their knowledge in Physics by meeting academics involved in research and developments of the field of Physics. And also, it is a great place to enhance leadership and team work skills through various activities aimed to create awareness about Physics among the student community.

The year plan of the society comprises of various activities and projects which are aimed to create awareness with regard of Physics throughout the University and the country. Some of the main activities and projects of the society are as follows,

Monthly guest lectures delivered by both local and foreign academics in the field of Physics.

- Physics forums on day to day Physics.
- “Insight”, Physics day and exhibition organized for A/L students all across the country.
- Workshops on Physics practicals aimed towards A/L physics teachers all across the country.

In addition to these the society organizes activities such as,

- “Sathsara”, the annual padura event of the Department of Physics.
- The annual shramadhana campaign.
- The annual trip of the Department of Physics

''Sathsara the annual padura event''

“Annual sharamadhana campaign”

BEEZ, established in 2015, is a student body with a common interest in Zoology and Environmental Sciences where the membership is open to all students of the Faculty of Science. The organization is dedicated to foster education and active participation in conservation of natural resources and promotion of biology and its related fields. The organization holds a benchmark event each year to celebrate the world environment day. Several events are organized in parallel to the theme of environment day with students from schools and universities as well as the public.

BEEZ founded the Explorers' Club in 2018 which promotes scientific exploration by enabling field workshops and nature explorations and thus serves as a common bond and meeting point for explorers of the University of Colombo. Members also come together for a monthly "Animal Talk" where they get the opportunity to learn from experts in the field. In addition, guest lectures, community service projects, conferences and workshops are organized by the organization. The Journal Club organized by BEEZ provides the opportunity to critically evaluate scientific papers with those who share a common interest towards the subject. BEEZ has partnered with many private and public-sector entities and thus serves as a platform for members to widen their network

The Botanical Society

The Botanical Society (BOTSOC) of the Faculty of Science, University of Colombo is an active student body which is based in the Department of Plant Sciences. It is one of the oldest student societies in the Faculty, having been established in the 1960s'.

The society aims to cultivate an interest in plants and environment amongst the student population of the Faculty, whilst at the same time involving themselves in charitable causes. In order to achieve this aim, the society conducts a number of activities throughout the year.

Each year a 'Plant Sale' is organized in the first semester where many different varieties of plants are sold. This popular event is well attended by staff and students of all Faculties of the University. Society members propagate many of the plants themselves and play an active role educating the potential buyers on plant growth and maintenance.

A 'Shramadana' Programme is also traditionally organized by the society in the first semester. During this event the students of the society get together and clean up the premises and surroundings of the Department of Plant Sciences.

In the second semester a charity event is organized based on uplifting the facilities of a rural school. The members themselves create a project proposal and organize all aspects of the project from liasing with the respective

school to funding. Members contribute in many aspects for this activity.

In the recent past the society was able to renovate science laboratories and class rooms of several rural schools whilst gifting necessary items to uplift sports and music in these schools. An educational workshop is organized in parallel to this charity event and provides a helping hand for students preparing for their Ordinary Level examination

The annual trip organized by the society is eagerly looked forward to by the members. The trip usually involves visiting places with scenic natural beauty. A hike is also organized and during the most recent trip members hiked through a forest to see a hidden waterfall.

The Society also organizes guest lectures of current interest covering diverse topics such as plant taxonomy, plant-animal interactions, bioinformatics and niche modeling.

All students of the Faculty of Science are welcome to join the Botanical Society.

Chemical Society
University of Colombo

The Chemical Society of the University of Colombo ('ChemSoc') comprises an active group of undergraduates following BSc Honours degree programmes offered by the Department of Chemistry, University of Colombo. The society organizes many events throughout the year both in relation to the subject and various community service projects.

Project SAHAS 'Scholarly Access in Helping the Advancement of Science', is the signature community service project organized annually by the ChemSoc targeting Advanced Level students in rural areas. This project includes a series of interactive seminars, tutorial discussions and hands-on experience in chemistry practical experiments to enhance their understanding of the core principles of Chemistry. Furthermore, distribution of stationary items and laboratory glassware among participants is carried out as a part of the SAHAS programme.

The 'ChemSoc Quiz' is another annual project which provides a platform for Advanced Level science

students island-wide to showcase their theoretical and practical knowledge in chemistry. The main goal of this project is to recognize and reward outstanding students, thereby encouraging them to pursue their higher studies in chemistry.

Apart from these main projects, the ChemSoc also organizes guest lectures spanning the academic year, to educate undergraduates to keep abreast of the new scientific advances.

Chemistry magic shows are conducted by ChemSoc on request from schools throughout the island. The main objective is to arouse students' interest in chemistry.

The dedicated team of ChemSoc members makes every effort to share their knowledge and skills to inspire the next generations to pursue the fascinating discipline of chemistry.

Epsilon Delta Society

The Epsilon Delta Society is a mathematics society run by the students of the Department of Mathematics in the University of Colombo. It has presently emerged popular as one of the main and most active student organizations in the Faculty of Science of the university.

The Epsilon Delta Society was founded on the 29th of August 2005. The unflagging mission of the society is to stimulate an interest in the students in mathematics, especially in pure mathematics, and related sciences, to help them discover their capabilities in these fields, and also to create an ideal platform for them to enhance their mathematical skills. Further, the society works closely with the academic staff and the academic support staff of the Department of Mathematics in order to provide the students, both in and out of the university, with an invaluable opportunity to be nurtured within a prestigious and erudite academic environment.

It is quite striking and admirable that the members in the society volunteer for the Sri Lanka Olympiad Mathematics Foundation so as to conduct the national level selection tests, to organize preparatory seminars in certain schools, and also to guide the selected teams up to the international events. Moreover, the society undertakes the activities pertaining to the distribution of certificates for the participants and winners of the Sri Lanka Olympiad Mathematics Competition.

A magazine had also been published once in the year 2015 which incorporated interesting and beautiful topics, relating mathematics to the real world which clinches the attention of any reader coming from any background. In addition to this, the Epsilon Delta Society regularly hosts an event called the “Math Circle” where the members and other attendees discuss such stimulating and enlightening topics as mathematical paradoxes, concept behind infinity, prime numbers etc.

This event has created an absolute podium for the students to share their passion for mathematics with their peers while earnestly exploring and pondering over the unsolved mysteries in the world of mathematics. The unflinching commitment of the members of the Epsilon Delta Society has enabled the young people in the country to see the world through the eyes of a true mathematician

.

Stat Circle

The "Stat Circle" is a society formed by the students of the Faculty of Science, University of Colombo in the year 2002. The aims of the society are to enhance the statistical knowledge of the students and the outside community and to communicate and exchange ideas with other societies, universities, the industry as well as school children.

The most prominent annual event of the Stat Circle is the "Stat Day", which is held with the participation of many distinguished guests from the government sector, private sector and academia. In addition, undergraduates from state universities and school students also gather for this outstanding event.

The Stat Day consists of speeches, a panel discussion, student sessions by the best performing students of the Department, an Inter-University Quiz Competition and an Inter-School Poster Competition. So, this event has become really significant for all those who are interested in the field of Statistics, since the audience would gain the rare opportunity to learn about new aspects and evolvement in the field through outstanding individuals who have mastered the field.

The Stat Circle has initiated in the year 2017, a series of motivational speeches titled "Inspirus" which will enlighten and encourage the students of the Faculty to be the best they could be. Renowned public speakers and successful personnels will join hands with the society for this purpose.

"Shilpa Shakthi" is another key event organized by the Stat Circle with the main aim of extending the knowledge of Statistics among school children. It will mainly include seminars for Advanced Level students in the stream of Mathematics covering Probability and Statistics which is part of the Combined Mathematics syllabus. Another main objective of holding this event is to provide the youngsters a basic understanding about the importance of the field of Statistics. This would be an attempt to raise their enthusiasm and to encourage them towards this field which would then result in some passionate valuable future statisticians.

Stat Circle is a platform that supports its members to add value to their lives. Further it helps them to reach out to the society at large to serve the world while developing themselves.

Stat Circle is not only about gaining knowledge in Statistics but being a member in it would surely improve their skills to face the industry world with much more confidence and passion.

AIESEC is a global platform for young people to explore and develop their leadership potential through powerful team experiences and cross-cultural exchanges. We are a non-political, independent, not-for-profit organization run by undergraduates and recent graduates of institutions of higher education. Our members are interested in a broad spectrum of areas such as world issues, leadership and management. AIESEC does not discriminate on the basis of ethnicity, gender, sexual orientation, religion or social origin.

The AIESEC network includes approximately 70,000 members in 127 countries and territories and is recognized by UNESCO. The international headquarters is in Rotterdam, Netherlands. We have a strong alumni-base which includes a wide range of individuals, professionals, entrepreneurs, business personnel, and even a Nobel Prize winner.

The membership of AIESEC within the University of Colombo spans across the different faculties, providing a platform for undergraduates from varying backgrounds to work together. Our members are always encouraged to step out of their comfort zone and push their boundaries for personal and professional development. The members get a unique opportunity of networking globally and as a result they have exposure to many different nationalities. In addition to the University of Colombo, AIESEC also operates in the University of Moratuwa, University of Kelaniya, University of Sri Jayewardenepura and University of Peradeniya, providing opportunities for collaboration.

Some of the events organized by AIESEC - University of Colombo were -the Global Village and Intern Conference bringing varied cultures and individuals from across the globe on to one platform, providing participants an invaluable opportunity to experience different cultures. AIESEC - Sri Lanka, annually conducts national conferences namely NLDS, NatCon, ExCon to enhance our members' professional skills, to provide networking opportunities and to impart knowledge on organizational strategies.We as AIESECers are looking forward to developing ourselves, while working in a highly motivated and a friendly environment. You are our next generation! If you are a person who desires to challenge yourself to bring out the leader in you, then come join us at AIESEC - University of Colombo

Catholic Student's Movement University of Colombo

The Catholic Students' Movement of University of Colombo is an active movement in the university, which consists mainly of Catholic undergraduates of University of Colombo. It is being monitored and guided by the Holy Catholic Church through the presence of a chaplain. CSM of University of Colombo is also a part of the CSM of the Colombo Region, which includes Catholic Movements of Universities of Jayawardhanapura, Kelaniya and Moratuwa.

CSM aims to develop the spirituality of the catholic undergraduates and encourage coexistence and harmony in our multicultural and multi-religious society. It plays a major role in uniting the undergraduates of different academic years and faculties and forming strong bonds of friendships.

CSM organize many events within and outside the university. The most famous event would be the Annual Carol Service of the university, which is organized by the CSM. Apart from the carol service Sabbath Day, May Feast, Annual Retreat and Charity programmes are few events that are being organized by the CSM of UOC.

Gavel Club

Gavel Club of the University of Colombo was first introduced to uplift the standards of communication, language and leadership skills of undergraduates.

The club is open to all the Faculties and fluency in English is NOT required to join the club. At Gavel, you can be yourself and express your ideas and views to an audience and improve yourself as a communicator as well as a leader.

The Club is an affiliation of Toastmasters International, USA. Following similar Toastmasters Club meeting protocols, the Club provides a supportive and positive learning experience in which members are empowered to develop these skills, resulting in greater self-confidence and personal growth. The Club currently has a membership of over 65 undergraduates from 6 faculties.

Our Gavellers are regular participants of speech competitions organized by various clubs. The Club's biggest achievements to date were the organization of the first ever Intra- University Best Speaker Competition of the University of Colombo 'Oration 2016' and first ever all island humorous and speech evaluation competition for the youth of Sri Lanka
'Enliven 2017'.

Under the motto of *Gavel Never Stops*, the Club caters to a wide variety of individuals by organizing regular workshops conducted by distinguished Toastmasters as well as speakers. One other initiative of the Club is *Gavel under the Trees*, a creative and innovative platform, designed solely to improve the overall Gavel experience by providing a platform for an insightful discussion in a leisurely environment.

The Club meets at least once every week and it has some new and exciting plans for the upcoming year. So come join with us!

Students' Association for Industrial and Financial Analysis (SAIFA)

The students' association for industrial and financial analysis was established in 2013. This is a society formed by the undergraduates who are interested in statistics and mathematical finance fields.

The main objectives of SAIFA are to promote the industrial statistics and mathematical finance degree program among the industry, create a unity between the undergraduates and to establish an industrial link. The association is conducting several projects to fulfil these objectives.

INTER-SCHOOL QUIZ COMPETION

Objective of the quiz competition is to create interest among the school community about statistics and mathematics. Around 20 schools will be competing for this event.

SAIFA BUSINESS CHALLENGE

SAIFA business challenge is open for undergraduates of any field of study where all the participants will be given a case study to be analyzed. The team that comes up with the best solutions will be rewarded.

SAIFA DAY AND GET TOGETHER

Final rounds of the inter school quiz competition and the SAIFA business challenge will be concluded on the SAIFA day. Past members of SAIFA will be joining with us on the day of the get together to share their industrial experiences.

SHRUTI

This was initiated as the main fund-raising project of SAIFA for the academic year 2018. This was renowned as the biggest musical extravaganza held at university premises

SCINTILLA – Nuclear Science Society

The SCINTILLA – Nuclear Science Society is attached to the Department of Nuclear Science and acts as the student society of the department. Nuclear Science Society of the University of Colombo was formed in the year 2018. Its membership is open to academics and undergraduate community of the University of Colombo who are interested in Nuclear Science and associated fields. Aims of establishing this society include popularizing Nuclear Science among the university community as well as the general public, research and advancement of knowledge related to Nuclear Science and associated fields among its members. Currently, it's one of the leading students' societies in the faculty. The Society organizes both intra-curricular and extra-curricular activities such as seminars, workshops, lectures, projects, and public awareness campaigns and thus, continues its endless journey by broadening the horizons.

Nuclear Science Day

It is the Nuclear Science Orientation day organized for the freshmen, at the beginning of each academic year in order to give an overview of the department, the courses it provides and other facilities.

Guest Lectures

Guest lectures are organized by the lecturers and professional to enlighten students who are interested in nuclear science and allied fields.

Science for Life

This project is focused on familiarizing Nuclear Science among school students in rural areas mainly targeting the students who are preparing for the A/L examination.

Annual Trip

It is an entertainment event organized by society for the academic staff and all students of the society.

ANNEXES

ANNEX 1 - PS 1: Physical Science, Level I

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	P1	P2	P3	P4	P5	P6	
S1		PH 1001	Modern Physics	2	30 L	X	X	X	O	O	O	
		PH 1004	Thermodynamics	1	15 L	O	O	O	O	O	O	
		PH 1020	Physics Laboratory I	2	60 L	X	X	X				
S2		PH 1002	Modern Optics	1	15 L	O	O	O	O	O	O	
		PH 1003	Waves & Vibrations & Circuit Theory	2	30 L	X	X	X	O	O	O	
		PH 1021	Electronics & Computing Laboratory I	2	60 L	O	O	O				
S1		CH 1008	General & Physical Chemistry	2	30 L	X			X	X		
		CH 1010	Calculations in Chemistry	1	15 L	O			O	O		
		CH 1011	Practical Chemistry Level1	2	60 P	X			X	X		
S2		CH 1012	Organic Chemistry	3	45 L	X			X	X		
		CH 1006	Impact of Chemistry on Society	2	30 L	O			O	O		
S1		AM 1011	Fundamental Applied Mathematics	2	30 L	X	X	X	X	X	X	■
		AM 1012	Vector Calculus	2	30 L	O	O	O	O	O	O	
S2	AM 1011	AM 1013	Differential Equations I	2	30 L	X	X	X	X	X	X	■
	AM 1011	AM 1014	Applied Linear Algebra	2	30 L	X	X	X	X	X	X	■
		AM 1015	Computational Mathematics I	2	60 P	O	O	O	O	O	O	
S1		ST 1006	Introduction to Probability & Statistics	2	30 L	X		X		X		
		ST 1008	Probability & Distributions	2	30 L		X		X		X	
		ST 1009	Exploratory Data Analysis	2	15 L 30 P		X		X		X	
S2		ST 1010	Statistical Theory	2	30 L		X		X		X	
		ST 1011	Introduction to Surveys	2	15 L 30 P	O	O	O	O	O	O	
		ST 1012	Basic Statistical Computing	2	15 L 30 P	O	O	O	O	O	O	
S1		PM 1011	Foundations of Mathematics	2	30 L	O	O	X	O	X	X	
		PM 1012	Introduction to Number Theory	2	30 L			X		X	X	
S2	PM 1011	PM 1013	Basic Analysis I	2	30 L			X		X	X	
		PM 1014	History as Motivation for Mathematics	2	30 L	O	O	O	O	O	O	
S1		CS 1102	Introduction to Computing	3	45 L	X	X	X	X	X	X	
S2		CS 1101	Fundamentals of Programming	3	30L 30 P	X	X	X	X	X	X	
S1		NS 1001	Fundamentals of Nuclear Science	3	45 L	X	X	X	X	X		
S2		NS 1002	Nuclear Techniques	1	15 L	X	X	X	X	X		
		NS 1003	Computational Methods in Nuclear Science	2	60 P	X	X	X	X	X		

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

Note:

1. Students must select all core courses (X) from **at least** three subjects out of the four within each stream, and enough electives to make up at least 30 credits.
2. All Physical Science students must register for compulsory courses marked with a ■
3. ST 1006 is a compulsory course for P1, P3 and P5 students.
4. ST 1008 is a compulsory course for P2, P4 and P6 students.
5. Students in P1,P2,P3,P4 and P5 combinations can select NS courses instead of CS courses

Combinations:

P1	Physics, Chemistry, Applied Maths, Computer Science or Nuclear Science	AM/PH/CH/CS or NS
P2	Physics, Applied Maths, Statistics, Computer Science or Nuclear Science	AM/PH/ST/CS or NS
P3	Physics, Applied Maths, Pure Maths, Computer Science or Nuclear Science	AM/PHPM/CS or NS
P4	Chemistry, Applied Maths, Statistics, Computer Science or Nuclear Science	AM/CH/ST/CS or NS
P5	Chemistry, Applied Maths, Pure Maths,Computer Science or Nuclear Science	AM/CH/PM/CS or NS
P6	Applied Maths, Statistics, Pure Maths, Computer Science	AM/ST/PM/CS

ANNEX 2 - PS 2: Physical Science, Level II

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	P1	P2	P3	P4	P5	P6	
S1		PH 2001	Analogue and Digital Electronics I	2	30 L	X	X	X	O	O	O	
		PH 2002	Physics of Semiconductor Devices	1	15 L	O	O	O	O	O	O	
		PH 2021	Electronics and Computing Laboratory II	2	60 P	O	O	O				
S2		PH 2003	Electromagnetic Theory	2	30 L	X	X	X	O	O	O	
		PH 2004	Special Relativity	1	15 L	O	O	O	O	O	O	
		PH 2020	Physical Laboratory II	2	60 P	X	X	X				
S1		CH 2011	Practical Chemistry Level II	2	60 P	X			X	X		
		CH 2012	Intermediate Physical Chemistry	3	45 L	X			X	X		
S2		CH 2002	Inorganic and Analytical Chemistry	2	30 L	X			X	X		
		CH 2013	Introduction to Biochemistry	2	30 L	O			O	O		
S1	AM1013	AM 2011	Differential Equations II	2	30 L	X	X	X	X	X	X	■
	AM1014	AM 2012	Linear Programming	2	30 L	X	X	X	X	X	X	■
S2	AM2011	AM 2013	Numerical analysis	2	30 L	X	X	X	X	X	X	■
	AM2012	AM 2014	Optimization	2	30 L	O	O	O	O	O	O	
	AM1015	AM 2015	Computational Mathematics II	2	60 P	O	O	O	O	O	O	
S1		ST 2006	Basic Statistical Inference	3	45 L	O	X	O	X	O	X	
		ST 2007	Applications in Statistical Inference	1	30 P		X		X		X	
		ST 2008	Statistical Methods in Quality Control	2	30 L	O	O	O	O	O	O	
S2	ST 2006	ST 2004	Analysis of Variance and Design of Experiments	2	30 L	O	X	O	X	O	X	
	ST 2006	ST 2009	Applied Non-Parametric Methods	2	30 L	O	O	O	O	O	O	
		ST 2010	Introduction to Statistical Modeling	1	15 L		O		O		O	
S1	PM1013	PM 2011	Basic Analysis II	2	30 L			X		X	X	
	PM1012	PM 2013	Introduction to Abstract Algebra	2	30 L			X		X	X	
S2	PM2011	PM 2012	Basic Analysis III	2	30 L			X		X	X	
S1		CS 2001	Internet Technologies	3	30 L 30 P	X	X	X	X	X	X	
S2		CS 2002	Fundamentals of Software Engineering	3	45 L	X	X	X	X	X	X	
S1		NS 2005	Radiochemistry	3	45 L	X	X	X	X	X		
S2		NS 2006	Basic Imaging Science	3	90 P	X	X	X	X	X		

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

Note:1. Students must select all core courses (X) from **at least** three subjects out of the four within each stream, and enough electives to make up at least 30 credits.

2. All Physical Science students must register for compulsory courses marked with a

3. Students in P1,P2,P3,P4 and P5 combinations can select NS courses instead of CS courses

Combinations:

P1	Physics, Chemistry, Applied Maths, Computer Science or Nuclear Science	AM/PH/CH/CS or NS
P2	Physics, Applied Maths, Statistics, Computer Science or Nuclear Science	AM/PH/ST/CS or NS
P3	Physics, Applied Maths, Pure Maths, Computer Science or Nuclear Science	AM/PHPM/CS or NS
P4	Chemistry, Applied Maths, Statistics, Computer Science or Nuclear Science	AM/CH/ST/CS or NS
P5	Chemistry, Applied Maths, Pure Maths,Computer Science or Nuclear Science	AM/CH/PM/CS or NS
P6	Applied Maths, Statistics, Pure Maths, Computer Science	AM/ST/PM/CS

ANNEX 3 - PS 1: Physical Science, Level III

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	P1	P2	P3	P4	P5	P6	
S1		PH 3001	Quantum Mechanics	3	45 L	X	X	X				
		PH 3008	Astronomy	3	45 L	O	O	O	O	O	O	
S2		PH 3004	Nuclear Physics	3	45 L	X	X	X				
		PH 3002	Environmental Physics	3	45 L	X	X	X	O	O	O	
S1		CH 3001	Topics in Analytical Chemistry I	2	30 L	X			X	X		
		CH 3002	Practical Analytical Chemistry	1	30 P	X			X	X		
		CH 3003	Industrial Chemistry	2	30 L	X			X	X		
		CH 3004	Laboratory Management	1	15 L	X			X	X		
		CH 3006	Computational Chemistry	2	30 L	O	O	O	O	O	O	
		CH 3008	Quality Management	1	15 L	O			O	O		
		CH 3010	Environmental Chemistry	2	30 L	O	O	O	O	O	O	
S2		CH 3005	Chemical Technology	2	30 L	O	O	O	O	O	O	
		CH 3007	Topics in Analytical Chemistry II	1	15 L	O			O	O		
		CH 3024	Pharmaceutical Chemistry*	2	30 L	O			O	O		
S1		AM 3031	Mathematical Methods I	3	45 L	X	X	X	X	X	X	
	AM 2015	AM 3035	Discrete Applied Mathematics	3	30 L 30 P	X	X	X	X	X	X	
S2		AM 3011	Mathematical Modelling	3	30 L 30 P	O	O	O	O	O	O	
S1		ST 3006	Regression Analysis	2	30 L	O	X	O	X	O	X	
		ST 3007	Operational Research	3	45 L	O	X	O	X	O	X	
		ST 3009	Applied Time Series	2	30 L	O	X	O	X	O	X	
		IS 3001	Sampling Techniques	2	30 L	O	O	O	O	O	O	
S2		ST 3012	Statistical Process Control	2	30 L	O	O	O	O	O	O	
S1		PM 3011	Real Analysis	3	45 L			X		X	X	
S2		PM 3012	Abstract Algebra	3	45 L			X		X	X	
S1		IT 3003	Advanced Programming Techniques	3	30 L 30 P	X	X	X	X	X	X	
		CS 3101	Rapid Application Development and Visual Programming Technologies	3	30 L 30 P	X	X	X	X	X	X	
S2		IT 3001	Management Information Systems	3	30 L 30 P	X	X	X	X	X	X	
		IT 3002	Database Systems	3	30 L 30 P	X	X	X	X	X	X	
S1		NS 3017	Applied Nuclear Science	3	30 L 30 P	X	X	X	X	X		*
S2		NS 3026	Nuclear Knowledge Management	2	30 L	O	O	O	O	O		*
		NS 3018	Health Physics	3	30 L 30 P	X	X	X	X	X		
		NS 3019	Medical Physics	3	45 L	O	O	O	O	O		
S2		FS 3001	Internship Training	6	-	O	O	O	O	O	O	
		FS 3002	Service Learning	8	240	O	O	O	O	O	O	

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

Note:

1) In this Annex, core courses in some disciplines are elective. Students are required to offer minimum of 6 core credits in each of two Main Subjects in their combination.
2) Department permission is required to offer the Honours Degree course CH 3024 (marked with an asterisk).
3) Courses having field components are marked with a ✴
4) Students can register for either FS 3001 OR FS 3002.

ANNEX 4 - BS 1 / MBM 1: Biological Science / Biochemistry & Molecular Biology (Direct Intake), Level I

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours		
S1		BT 1011	Genetics and Cell Biology	2	30 L	X	
		BT 1009	Genetics and Cell Biology Practical	1	30 P	X	
		BT 1008	Plant Resources	1	15 L	X	
		BT 1013	Plant Structure	1	5 L 20 P	O	
S2		BT 1012	Variety of Plant and Microbial Life	2	30 L	X	
		BT 1010	Variety of Plant and Microbial Life Practical	1	30 P	X	✳
		BT 1114	Flora of Sri Lanka	1	5 L 20 P	O	
S1		CH 1008	General and Physical Chemistry	2	30 L	X	
		CH 1010	Calculations in Chemistry	1	15 L	O	
		CH 1011	Practical Chemistry Level I	2	60 P	X	
S2		CH 1012	Organic Chemistry	3	45 L	X	
		CH 1006	Impact of Chemistry on Society	2	30 L	O	
S1		ZL 1009	Evolution and Biogeography	2	15 L 30 P	X	✳
		EN 1008	Introduction to Environmental sciences	3	30 L 30 P	■	✳
S2		ZL 1008	Variety of Animal Life	3	30 L 30 P	X	✳
		ZL 1010	Animal Behavior	2	15 L 30 P	X	
S1		AM 1108	Mathematics for Biological Science Students	2	30 L	■	
S1		CS 1102	Introduction to Computing	3	45 L	■	
S2		CS 1101*	Fundamentals of Programming	3	30 L 30 P	O	
S1		NS 1001**	Fundamentals of Nuclear Science	3	45 L	X	
S2		NS 1002**	Nuclear Techniques	1	15 L	X	
		NS 1003**	Computational Methods in Nuclear Science	2	60 P	X	

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

Courses having field components are marked with a ✳

*To be eligible for the Honours Degrees in Computational Chemistry students must offer CS 1101.

*To be eligible for the Honours Degrees in Bioinformatics students must offer CS 1101 and CS 1102.

**NS courses are offered alternative to CS courses.

ANNEX 5 - BS 2 / MBM 2: Biological Science / Biochemistry & Molecular Biology (Direct Intake), Level II

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours		
S1		BT 2014	Principles of Microbiology	1	15 L	X	
		BT 2015	Introductory Molecular Biology and Recombinant DNA Technology	1	15 L	X	
		BT 2001	Biostatistics	2	15 L 30 P	■	
		BT 2016	Microbiology & Molecular Biology Practicals	1	30 P	X	
S2		BT 2017	Plant Biochemistry and Physiology	2	30 L	X	
		BT 2018	Plant Biochemistry and Physiology Practicals	1	30 P	X	
		BT 2013	Plant Development	1	15 L	X	
S1		CH 2011	Practical Chemistry Level II	2	60 P	X	
		CH 2012	Intermediate Physical Chemistry	3	45 L	X	
S2		CH 2002	Inorganic and Analytical Chemistry	2	30 L	X	
		CH 2013	Introduction to Biochemistry	2	30 L	■	
		CH 2014	Genome Structure and Organization	1	15 L	O	
S1		ZL 2010	Animal Form and Function	3	30 L 30 P	X	
		EN 2008	Fundamentals of Environmental Management	3	30 L 30 P	O	
S2		ZL 2009	Principles of Ecology	3	30 L 30 P	X	✴
		ZL 2011	Biosystematics	1	15 L	X	
S1		NS 2005	Radiochemistry	3	45 L	X	
S2		NS 2006	Basic Imaging Science	3	90 P	X	
S1		CS 2001*	Internet Technologies	3	30 L 30 P	O	
S2		CS 2002	Fundamentals of Software Engineering	3	45 L	O	

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs Courses
Having field components are marked with a ✴

Note:

1. To be eligible for the Honours Degree in **Bioinformatics**, students must offer CS 2001.
2. To be eligible for the Honours Degree in **Computational Chemistry**, students must offer CS 2002.
3. To be eligible for the Honours Degree in **Environmental Science**, students must offer EN 2008.
4. To be eligible for the Honours Degree in **Biochemistry and Molecular Biology**, students must offer CH 2014
5. NS courses are offered alternative to CS courses

ANNEX 6 – BS 3: Biological Science, Level III

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours		
S1		BT 3001	Plant Pathology	3	30 L 30 P	X	
		BT 3003	Plant Molecular Biology	2	30 L	O	
		BT 3006	Plant Tissue Culture Technology	3	30 L 30 P	X	✶
S2		BT 3002	Horticulture	3	30 L 30 P	X	✶
		BT 3105	Applied Microbiology	3	30 L 30 P	X	✶
		BT 3073	Methods in Plant Breeding	2	20 L 20 P	O	✶
S1		CH 3001	Topics in Analytical Chemistry I	2	30 L	X	
		CH 3002	Practical Analytical Chemistry	1	30 P	X	
		CH 3003	Industrial Chemistry	2	30 L	X	
		CH 3004	Laboratory Management	1	15 L	X	
		CH 3008	Quality Management	1	15 L	O	
		CH 3010	Environmental Chemistry	2	30 L	O	
S2		CH 3005	Chemical Technology	2	30 L	O	
		CH 3007	Topics in Analytical Chemistry II	1	15 L	O	
		CH 3024	Pharmaceutical Chemistry*	2	30 L	O	
		CH 3027	Molecular Biology*	2	30 L	O	
S1		ZL 3010	Fish Biology and Fisheries	3	30 L 30 P	X	✶
		ZL 3015	Introduction to Biological Psychology	1	15 L	O	
		ZL 3019	Pest Management	2	15 L 30 P	X	✶
		ZL 3020	Anthropology	2	30 L	O	
S2		ZL 3012	Human and Mammalian Biology Economic	3	30 L 30 P	X	✶
		ZL 3014	Zoology	3	30 L 30 P	O	✶
		ZL 3018	Animal and Human Parasites	3	30 L 30 P	X	
		ZL 3006	Molecular Biological and Immunological Applications	2	30 L	X	
S1		EN 3013	Natural Hazards and Disease Risk Management	3	30 L 30 P	O	
		EN 3019	Climate Change	3	30 L 30 P	O	
S2		EN 3018	Public Policy and Social Movement	2	30 L	O	
		EN 3020	Seminar	1	15 L	O	
S1		IT 3003	Advanced Programming Technologies	3	30 L 30 P	X	
		CS 3101	Rapid Application Development and Visual Programming Technologies	3	30 L 30 P	X	
S2		IT 3001	Management Information Systems	3	30 L 30 P	X	
		IT 3002	Database Systems	3	30 L 30 P	X	
S1		PH 3008	Astronomy	3	45 L	O	
S2		PH 3002	Environmental Physics	3	45 L	O	
S1		NS 3017	Applied Nuclear Science	3	30 L 30 P	X	
		NS 3005	Radiobiology	2	30 P	O	
S2		NS 3026	Nuclear Knowledge Management	2	30 L	O	
		NS 3018	Health Physics	3	30 L 30 P	X	
		NS 3019	Medical Physics	3	45 L	O	
S2		FS 3001	Internship Training	6	-	O	
		FS 3002	Service Learning	8	240 P	O	

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

Note: 1. Department permission is required to follow the Honours Degree courses CH 3024 and CH 3027 (marked with an asterisk).
2. In this Annex, core courses in some disciplines are elective. Students are required to offer a minimum of 6 core credits in each of two Main Subjects in their combination.
3. Courses having field components are marked with a ✶
4. Students can register for either FS 3001 OR FS 3002.

ANNEX 7 – BMB 3: Biochemistry and Molecular Biology (Direct Intake) - Level III

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	
S1		BC 3021	Food Chemistry	2	30 L	O
		BC 3022	Metabolism I	2	30 L	X
		BC 3026	Laboratory Techniques in Biochemistry and Molecular Biology	4	120 P	X
		MB 3003	Introduction to Genomics and Proteomics	2	30 L	X
		MB 3022	Gene Expression and Regulation	3	45 L	X
		MB 3023	Recombinant DNA Technology	2	30 L	X
		BT 3053	Introduction to Bioinformatics	2	15 L 30 P	X
S2		CH 3054	Nutritional & Clinical Biochemistry	2	30 L	X
		BC 3006	Biochemistry Seminar	1	30 P	O
		BC 3023	Metabolism II	2	30 L	X
		BC 3025	Protein Structure and Function	2	30 L	X
		BC 3027	Enzymology	2	30 L	X
		MB 3005	Industrial Molecular Biotechnology	2	30 L	X
		MB 3026	Cell Signaling	1	15 L	X
		ZL 3006	Molecular Biological and Immunological Applications	2	30 L	O
S2		FS 3001	Internship Training	6	–	O
		FS 3002	Service Learning	8	240 P	O

X: Core courses ■: Compulsory course O: Elective courses L: Lectures P: Practicals / Labs

Note:

- Students can register for either FS 3001 OR FS 3002.

ANNEX 8 - IS 1: Industrial Statistics & Mathematical Finance - Level I

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	
S1		IS 1006	Fundamentals of Statistics	3	30 L 30 P	X
		IS 1007	Introduction to Statistical Computing	1	30 P	O
S2		IS 1008	Introduction to Probability and Distributions	3	45 L	X
		IS 1009	Introduction to Survey Design	2	15 L 30 P	O
S1		FM 1011	Financial Mathematics I	2	30 L	X
		FM 1013	Linear programming	2	30 L	O
		PM 1011	Foundations of Mathematics	2	30 L	X
S2		FM 1012	Mathematical Methods for Finance I	2	30 L	O
		FM 1014	Computational Financial mathematics I	2	60 P	O
	PM 1011	PM 1013	Basic Analysis I	2	30 L	X
S1		MS 1011	Computing for Finance*	1	30 P	X
S2		MS 1012	Mathematical Economics*	2	30 L	X
S1		CS 1102	Introduction to Computing	3	45 L	X
S2		CS 1101	Fundamentals of Programming	3	30 L 30 P	X

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

*MS Courses offered by the Department of Mathematics.

Note:

1. Students must offer all core courses from IS, FM, and MS disciplines during Level I and Level II.
2. Students must select at least 2 electives from each of IS and FM disciplines during Level I and Level II.

ANNEX 9 - IS 2: Industrial Statistics & Mathematical Finance - Level II

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	
S1		IS 2005	Statistical Packages	1	30 P	X
		ST 2006	Basic Statistical Inference	3	45 L	X
S2	ST 2006	IS 2003	Design and Analysis of Industrial Experiments	2	30 L	X
		ST 2009	Applied Non-Parametric Methods	2	30 L	O
		ST 2010	Introduction to Statistical Modelling	1	15 L	O
S1	FM 1101	FM 2101	Financial Mathematics II	2	30 L	O
		FM 2102	Linear Algebra	2	30 L	O
		PM 2101	Basic Analysis II	2	30 L	X
S2	FM 1011	FM 2013	Actuarial Mathematics I	2	30 L	X
	FM 1014	FM 2014	Computational Financial Mathematics II	2	60 P	O
		PM 2012	Basic Analysis III	2	30 L	X
S1		MS 2011	Numerical Methods for Finance*	2	20 L 20 P	X
S2		MS 2012	Introduction to Insurance*	1	15 L	X
S1		CS 2001	Internet Topologies	3	30 L 30 P	X
S2		CS 2002	Fundamentals of Software Engineering	3	45 L	X

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

*MS Courses offered by the Department of Mathematics.

Note:

1. Students must offer all core courses from IS, FM, and MS disciplines during Level I and Level II.
2. Students must select at least 2 electives from each of IS and FM disciplines during Level I and Level II

ANNEX 10 - IS 3: Industrial Statistics & Mathematical Finance - Level III

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	
S1	ST 2006	ST 3006	Regression Analysis	2	30 L	X
	ST 2006	ST 3009	Applied Time Series	2	30 L	O
	IS 1009	IS 3001	Sampling Techniques	2	30 L	X
S2	ST 2006	IS 3004	Applied Multivariate Methods	2	30 L	O
		IS 3005	Statistics in Practice I	3	90 P	O
S1	FM 1012	FM 3031	Mathematical Methods for Finance II	3	30 L 30 P	X
	FM 2011	FM 3034	Financial Mathematics III	2	20 L 20 P	X
		MS 3108	Accounting for Finance *	3	45 L	X
S2	FM 3034	FM 3011	Financial Mathematics Seminar	1	30 P	O
		AM 3011	Mathematical Modeling	3	30 L 30 P	O
	FM 2013	FM 3033	Actuarial Mathematics II	3	45 L	X
S1		MS 3009	Operational Research II	3	30 L 30 P	X
S2		MS 3004	Quality Management/ Project Management	2	30 L	O
S1		CS 3101	Rapid Application Development and Visual Programming Technologies	3	30 L 30 P	X
		IT 3001	Management Information Systems	3	30 L 30 P	X
S2		FS 3001	Internship Training	6	-	O
S2		FS 3002	Service Learning	8	240 L	O

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals /Labs

*MS Courses offered by the Department of Mathematics. Note

:

1. Students can register for either FS 3001 OR FS 3002.

2. **Students must select all core courses (X) from at least 2 disciplines out of the 4 disciplines available.**

ANNEX 11 - S1: HONOURS DEGREE PROGRAMMES (Research Orientation)
Physics / Engineering Physics / Computational Physics

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	PH	EP	CP
III		PH 3001	Quantum Mechanics I	3	45 L	X	X	X
		PH 3007	Analogue and Digital Electronics II	3	45 L	X	X	
		PH 3008	Astronomy	3	45 L	O		
		PH 3030	Advanced Physics Laboratory I	6	180 P	X		
		PH 3032	Embedded Systems Laboratory	3	90 P		X	
		PH 3034	Digital Image Processing I	3	30 L 30 P		O	X
		PH 3052	Electromagnetic Fields I	3	45 L	X	X	X
S1		PH 3057	Mathematical Physics I	3	45 L	X	X	X
		CS 3101	Rapid Application Development and Visual Programming Technologies	3	30 L 30 P			O
		CS 3008	Introduction to Data Structures and Algorithms	3	30 L 30 P		O	X
		CS 3102	Advanced Computer Architecture	2	15 L 30 P			O
		CS 3120	Machine Learning and Neural Computing	3	30 L 30 P			X
		PH 3002	Environmental Physics	3	45 L		O	
		PH 3004	Nuclear Physics	3	45 L	X		
		PH 3020	Computational Physics Laboratory	2	60 P			X
		PH 3021	Computational Physics Seminar	1	30 P			X
S2		PH 3035	Design and Machining Laboratory	3	90 P		X	
		PH 3051	Instrumentation Physics	3	45 L		X	
		PH 3053	Statistical Physics	3	45 L	X	X	X
		PH 3054	Classical Mechanics	3	45 L	X		X
		PH 3055	Data Acquisitions and Signal Processing	3	45 L	X	X	
		PH 3058	Circuit Analysis and Simulation	3	30 L 30 P		X	
		IT 3001	Management Information Systems	3	30 L 30 P			O
		IT 3002	Database Systems	3	30 L 30 P			X
IV		PH 4001	Solid State Physics	3	45 L	X	X	X
		PH 4002	Methods in Computational Physics	3	15 L 60 P	X	X	X
		PH 4007	Industrial Management	3	45 L		X	X
		PH 4009	Mathematical Physics II	3	45 L	X		O
		PH 4012	Advanced Optics	3	45 L	X		
		PH 4014	Introduction to Robotics	3	15 L, 60 P		X	O
		PH 4030	Advanced Physics Laboratory II	6	180 P	X		
S1		PH 4031	Engineering Physics Laboratory	6	180 P		X	
		PH 4040	Physics Project	6	180 P	X		
		PH 4041	Engineering Physics Project	6	180 P		X	
		PH 4042	Computational Physics Project	6	180 P			X
		CS 4104	Data Analytics	3	30 L 30 P			X
		CS 4105	Computer Networks II	3	30 L 30 P			O
		CS 4106	Computer Graphics II	3	30 L 30 P			O
		CS 4110	Parallel Computing	3	30 L 30 P			X
		CS 4127	Advanced Concepts in Software Design and Development	3	30 L 30 P			O
		CS 4128	Advanced Database Management	3	30 L 30 P			O
		PH 4005	Electronic Communication Techniques	3	45 L		X	
		PH 4008	Nuclear and Particle Physics	3	45 L	X		
		PH 4010	Quantum Mechanics II	3	45 L	X		O
		PH 4011	Electromagnetic Fields II	3	45 L	X		
		PH 4013	Solid State Devices and Opt Electronics	3	45 L		X	
S2		PH 4015	Computational Statistical Mechanics Industrial	3	30 L 30 P	O		X
		EC 4001	Training (enhancement course)	2	60 P	O	O	O
		CS 4109	Distributed Systems	3	30 L 30 P			O
		CS 4111	Intelligent Systems	3	30 L 30 P		O	X
		CS 4117	Embedded Systems	3	30 L 30 P			O

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Lab

ANNEX 12 - S2: HONOURS DEGREE PROGRAMMES (Research Orientation)
Chemistry / Pharmacy / Computational Chemistry

Level III

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	CH	PHA	CC
S1		CH 3001	Topics in Analytical Chemistry I	2	30 L	X	X	
		CH 3003	Industrial Chemistry	2	30 L	O		O
		CH 3004	Laboratory Management	1	15 L	X	X	
		CH 3006	Computational Chemistry	2	30 L	X		X
		CH 3008	Quality Management	1	15 L	X	X	
		CH 3021	Spectroscopy	3	45 L	X	X	X
		CH 3030	Advanced Practical Chemistry	8	240 P	X		
		CH 3033	Chemistry of Biomolecules	3	45 L	X	X	O
		CH 3071	Pharmaceutics I	3	45 L		X	
		CH 3075	Practical Pharmacy	8	240 P		X	
		CH 3090	Practical Computational Chemistry	8	240 P			X
		CS 3008	Introduction to Data Structures and	3	30 L 30 P			X
		CS 3120	Algorithms Machine Learning and Neural Computing	3	30 L 30 P			X
S2		CH 3005	Chemical Technology	2	30 L	O		O
		CH 3007	Topics in Analytical Chemistry II	1	15 L	X		X
		CH 3023	Coordination and Organometallic	3	45 L	X		X
		CH 3024	Chemistry Pharmaceutical Chemistry	2	30 L	X		
		CH 3027	Molecular Biology	2	30 L	X	X	
		CH 3029	Organic Chemistry	3	45 L	X		X
		CH 3031	Symmetry in Chemistry	1	15 L	X		X
		CH 3032	Computational Programming in Chemistry	3	30 L 30 P			X
		CH 3054	Nutritional and Clinical Biochemistry	2	30 L			
		CH 3073	Anatomy and Physiology	3	45 L		X	
		CH 3074	Pharmacology I	3	45 L		X	
		CH 3076	Microbiology in Pharmacy	2	30 L		X	
		IT 3002	Database Systems	3	30 L 30 P		X	X

Level IV

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	CH	PHA	CC
S1		CH 4001	Research Project	8	240 P	X	X	X
		CH 4002	Seminar and Essay	3	90 P		X	X
		CH 4004	Optional Topics	4	60 L	X		X
		CH 4005	Advanced Organic Chemistry	3	45 L			
		CH 4006	Biochemistry	3	45 L	X		X
		CH 4007	Advanced Physical Chemistry	3	45 L			X
		CH 4070	Pharmaceutics II	3	45 L	X	X	
		CH 4071	Pharmacology II	3	45 L		X	
		CH 4073	Advanced Pharmaceutical Chemistry II	2	30 L	X	X	
		CH 4075	Pharmaceutical Law and Ethics	2	30 L	X	X	
		CH 4078	Pharmacognosy in Pharmacy	2	30 L		X	
		CH 4090	Advanced Molecular Modeling	1	15 L	O		X
S2		CH 4003	General Paper	3	45 L	X		X
		CH 4008	Advanced Topics in Chemistry	3	45 L	X		
		CH 4074	Quality Control, Statistics and Computer Applications	3	45 L		X	
		CH 4076	Pharmaceutical Management and Administration	3	45 L		X	
		CH 4077	Pharmacy Practice	2	60 P		X	
		CS 4115	Computational Biology	3	30 L 30P			X
		CS 4125	Logic Programming	3	30 L 30P			X

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

ANNEX 13 - S3: HONOURS DEGREE PROGRAMMES (Research Orientation)

Mathematics / Applied Mathematics / Computational Mathematics */ Mathematical Finance

Level	Pre-Requisite	Course Unit	Title	Credit Value	Type	Mathematics	Applied mathematics	Computational Mathematics	Mathematical Finance
III		AM 3031	Mathematical Methods I	3	45 L	O	X	X	
		AM 3032	Numerical Methods and Scientific Computing I	2	60 P		X		
		AM 3033	Applied Dynamical Systems	3	30 L 30 P	O	X		
	AM 2015	AM 3035	Discrete Applied Mathematics	3	30 L 30 P	O	X	X	O
		AM 3081	Applied Analysis	3	45 L			X	
		AM 3082	Theory of Computation	3	45 L			X	
		AM 3083	Computational Methods and Scientific Computing I	2	60 P			X	
S1	FM 1012	FM 3031	Mathematical Methods for Finance II	3	30 L 30 P				X
		FM 3032	Quantitative Finance	3	45 L				X
	FM 2011	FM 3034	Financial Mathematics III	2	20 L 20 P				X
		FM 3012	Economics I for Finance and Insurance	3	45 L				O
		PM 3031	Linear Algebra	3	45 L	X			
		PM 3033	Real Analysis I	3	45 L	X	X		X
		PM 3036	Topology I	3	45 L	X	O		
S2		AM 3034	Distribution & Random Number Theory	3	30 L 30 P		O	O	O
		AM 3036	Applied Graph Theory	3	30 L 30 P	O	O	X	
		AM 3037	Mathematical Methods II	3	45 L	O	X		
		AM 3038	Mathematical Modeling	4	120 P		X		
		AM 3084	Computational Mathematical Modeling	4	120 P			X	
		PM 3032	Group Theory	4	60 L	X			
		PM 3034	Real Analysis II	3	45 L	X	X		X
		PM 3035	Complex Analysis	4	60 L	X			
		PM 3037	Topology II	3	45 L	X			
		PM 3038	Analysis in Several Dimensions	3	45 L	O			
	FM 2013	FM 3033	Actuarial Mathematics II	3	45 L				X
		FM 3035	Game Theory and Decision Theory	3	30 L 30 P				X
		FM 3036	Computational Financial Modeling I	4	120 P				X
		IT 3002	Database Systems	3	30 L 30 P			O	
		IT 3007	Data Structures & Algorithms	3	30 L 30 P			X	
Level III		EC 3031	Community Service	4*	120 P	■	■	■	■
IV		AM 4031	Applied Research Project	8	240 P		X		
		AM 4032	Advance Optimization	3	45 L	O	O	O	O
		AM 4033	Non- Linear Programming	3	45 L	O	O	O	O
		AM 4034	Computational Fluid Dynamics	3	90 P		X		
		AM 4081	Computational Mathematics Research Project	8	240 P			X	
		AM 4082	Computational Methods and Scientific Computing II	3	90 P			X	
S1		PM 4031	Research Project	8	240 P	X			
		PM 4032	Commutative Algebra	4	60 L	X			
		PM 4034	Measure Theory and Integration	4	60 L	X			
		PM 4036	Topological Spaces	4	60 L	O			
		ST 4031	Stochastic Processes and Applications	3	45 L		O	O	O
	FM 3012	FM 4007	Economics II for Finance and Insurance	3	45L				O
		FM 4031	Financial Mathematics Research Project	8	240 P				X
	FM 3033	FM 4032	Actuarial Mathematics III	3	45 L				X
		IT 4004	Advanced Database Systems	3	30 L 30 P			X	
S2		AM 4036	Fuzzy Modeling	4	120 P		X		
		AM 4037	Applied Functional Analysis	3	45 L		X		X
		AM 4038	Stochastic Calculus	3	30 L 30 P	O	O		O
		AM 4083	Fuzzy Analytics	4	120 P			X	
		AM 4084	Unconventional Computing	3	45 L			O	
		PM 4033	Field Theory and Galois Theory	4	60 L	X			
		PM 4035	Functional Analysis	4	60 L	X			
		PM 4037	Differential Geometry	4	60 L	O			
		PM 4038	Number Theory	4	60 L	O			
	FM 4032	FM 4033	Actuarial Mathematics IV	3	30 L 30 P				X
		FM 4034	Computational Financial Modeling II	4	120 P				X
Level IV		EC 4031	Industrial Training	4*	120 P		O	O	O

X: Core courses ■:: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

*: Will not be considered when calculating GPA

Annex 14 - S4: HONOURS DEGREE PROGRAMMES (Research Orientation)
Statistics / Statistics with Computer Science

Level	Pre-requisite	Course Unit	Title	Credit Value	Type	ST	SCS
III		ST 3003	Marketing Research	2	30 L	O	O
	AM 3004	ST 3007	Operational Research	3	45 L	O	O
		ST 3051	Statistical Inference I	3	45 L	X	X
		ST 3072	Applied Regression Analysis	3	45 L	X	X
		ST 3074	Time Series Analysis	2	30 L	X	O
		ST 3075	Design of Experiments	2	30 L	X	
		ST 3076	Reliability Data Analysis	3	30 L 30 P		O
S1		ST 3085	Computational Statistics	2	15 L 30 P	X	O
		CS 3101	Rapid Application Development and Visual Programming Technologies	3	30 L 30 P		X
		CS 3008	Introduction to Data Structures and Algorithms	3	30 L 30 P	O	X
		CS 3105	Computer Graphics I	3	30 L 30 P		O
		CS 3112	Advanced Web Development	3	30 L 30 P		O
		CS 3120	Machine Learning and Neural Computing	3	30 L 30 P		X
		PM 3033	Real Analysis 1	3	45 L	O	O
	ST 3012	ST 3012	Statistical Process Control	2	30 L	O	
		ST 3013	Essential Mathematics for Statistics	3	45 L	X	X
		ST 3070	Special Topics	2	15 L 30 P	O	
		ST 3073	Surveys and Sampling	3	45 L	X	
S2		ST 3082	Statistics Learning, I	2	60 P	X	X
		ST 3083	Multivariate Data Analysis	3	45 L	X	X
		ST 3084	Statistical Inference II	2	30 L	X	X
		IT 3001	Management Information Systems	3	30 L 30 P		O
		IT 3002	Database Systems	3	30 L 30 P	O	O
		PM 3034	Real Analysis II	3	45 L	O	
IV		ST 4011	Econometrics	2	30 L	O	
		ST 4031	Stochastic Processes and Applications	3	45 L	X	O
		ST 4051	Scientific writing	1	30 P	O	O
		ST 4052	Statistical Learning II	2	60 P	X	X
		ST 4054	Linear Models	3	45 L	X	O
S1		ST 4056	Medical Statistics	3	45 L	O	
		CS 4104	Data Analytics	3	30 L 30 P	O	X
		CS 4106	Computer Graphics II	3	30 L 30 P		O
		CS 4127	Advanced Concepts in Software Design & Development	3	30 L 30 P	O	X
		CS 4128	Advanced Database Management	3	30 L 30 P		O
		ST 4012	Special Topics for ST	2	30 L	O	
		ST 4013	Special Topics for ST+CS	2	30 L		O
		ST 4040	Individual Project ST+CS	8	240 P		X
		ST 4050	Individual Project ST	8	240 P	X	
		ST 4055	Generalized Linear Models	3	30 L 30 P	X	X
S2		CS 4111	Intelligent Systems	3	30 L 30 P		O
		CS 4113	Natural Language Processing	3	30 L 30 P		O
		CS 4117	Embedded Systems	3	30 L 30 P		O
		CS 4125	Logic Programming	3	30 L 30 P	O	O
		EC 4004	Industrial Training	3	90 P	O	O

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

ANNEX 15 - S5: HONOURS DEGREE PROGRAMMES (Research Orientation)
Plant Science / Plant Biotechnology / Bioinformatics

Level	Pre-requisite	Course Unit	Title	Credit Value	Type	PS	PBT	BI
III		BT 3001	Plant Pathology	3	30 L 30 P	X	X	
		BT 3003	Plant Molecular Biology	2	30 L	X	X	X
		BT 3006	Plant Tissue Culture Technology	3	30 L 30 P		X	
		BT 3009	Environment & Biodiversity Related Legislation I in Sri Lanka	1	15 L	X	X	
		BT 3053	Introduction to Bioinformatics	2	15 L 30 P	X	X	X
		BT 3058	Bioprospecting	2	30 L	X	X	
		BT 3061	Taxonomic Field Survey	3	90 P	X		
S1		BT 3064	Experimental Plant Biotechnology	2	60 P		X	
		BT 3066	Plant Systematics	3	30 L 30 P	X		
		CS 3101	Rapid Application Development & Visual Programming Technologies	3	30 L 30 P			X
		CS 3120	Machine Learning and Neural Computing	3	30 L 30 P			X
		CS 3008	Introduction to Data Structures and Algorithms	3	30 L 30 P			X
		IT 3003	Advanced Programming Techniques	3	30 L 30 P			X
		BT 3002	Horticulture	3	30 L 30 P	X	X	
		BT 3105	Applied Microbiology	3	30 L 30 P	X	X	
		BT 3063	Techniques in Molecular Biology'	2	15 L 30 P	X	X	X
		BT 3167	Phylogenetic Analysis	1	10 L 10 P	X	X	X
		BT 3170	Aspects of Environmental Science	2	20 L 20 P	X	X	
		BT 3071	Experimental Design and Data Analysis	2	15 L 30 P	X	X	X
S2		BT 3172	Special Topics in Bioinformatics	3	90 P			X
		BT 3073	Methods in Plant Breeding	2	20 L 20 P	X	X	
		ZL 3006	Molecular Biological and Immunological Applications	2	30 L			X
		IT 3002	Database Systems	3	30 L 30 P			X
		BT 3074	Mathematics for Bioinformatics	1	15 L			X
IV		BT 4105	Advanced Plant Biochemistry and Physiology	4	45 L 30 P	X	X	
		BT 4107	Trends in Plant Molecular Biology	3	45 L		X	X
		BT 4018	Soil Science	2	15 L 30 P	X		
		BT 4019	Statistical Methods in Bioinformatics	1	10 L 10 P			X
S1		BT 4020	Agro Biotechnology	3	30 L 30 P		X	
		BT 4021	Biotechnology Industry	3	30 L 30 P		X	
		BT 4022	Ecology	3	30 L 30 P	X		
		BT 4036	Applications in Geographical Information System (GIS)	1	30 P	X		
		BT 4134	Biodiversity Conservation	2	20 L 20 P	X		
		BT 4035	Vegetation Description and Analysis	3	15 L 60 P	X		
		BT 4125	Post-Harvest Technology	2	20 L 20 P		X	
		CS 4104	Data Analytics	3	30 L 30 P			X
		CS 4128	Advanced Database management	3	30 L 30 P			X
		MB 4003	Molecular Evolution, Modeling and Computer Based Drug Design	3	30 L 30 P			X
		BT 4026	General Paper in Plant Biology	1	30 P	X	X	
		BT 4033	Research Project in Bioinformatics	8	240 P			X
		BT 4028	Research Project in Plant Biotechnology	8	240 P		X	
		BT 4027	Research Project in Plant Science	8	240 P	X		
S2		BT 4030	Literature Review and Seminar, I	2	60 P	X	X	X
		BT 4031	Assignment	3	90 P	X	X	
		BT 4032	Seminar II and Viva-voce	1	30 P	X	X	X
		CS 4115	Computational Biology	3	30 L 30 P			X
		CS 4125	Logic Programming	3	30 L 30 P			X

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

ANNEX 16 – S6: HONOURS DEGREE PROGRAMMES (Research Orientation)
Zoology / Environment Science

Level	Pre-req.	Course Unit	Title	No. Credits	Hours	Z	ES
III		ZL 3010	Fish Biology & Fisheries	3	30 L 30 P	X	X
		ZL 3059	Molecular Biology	2	30 L	X	
		ZL 3066	Immunology	3	30 L 30 P	X	
		ZL 3071	Animal Kingdom I	3	30 L 30 P	X	
		ZL 3073	Animal Kingdom II	3	30 L 30 P	X	
S1		EN 3060	Environment resource Management	4	45 L 30 P		X
		EN 3013	Natural Hazards and Disaster Risk Management	3	30 L 30 P		X
		EN 3063	Environmental Economics and Sustainable Development	3	45 L		X
		EN 3019	Climate Change	3	30 L 30 P		X
		ZL 3018	Animal and Human Parasites	3	30 L 30 P	X	
		ZL 3069	Fundamentals of Conservation Biology and Wildlife Management	3	30 L 30 P	X	X
		ZL 3070	Ecotoxicology	4	45 L 30 P	X	X
		ZL 3072	Comparative Anatomy and Physiology I	3	30 L 30 P	X	
S2		ZL 3074	Comparative Anatomy and Physiology II	3	30 L 30 P	X	
		EN 3064	Environment and Industry	3	30 L 30 P		X
		EN 3065	Landscape Ecology	4	45 L 30 P		X
		EN 3018	Public Policy and Social Movement	2	30 L		X
		EN 3020	Seminar	1	15 L		X
IV		ZL 4052	Research Project	8	240 P	X	X
		ZL 4061	Aquaculture	3	30 L 30 P	X	
		ZL 4064	Parasitology	3	30 L 30 P	X	
		ZL 4062	Entomology	3	30 L 30 P	X	
		ZL 4063	Ornithology	3	30 L 30 P	X	
S1		EN 4021	Tools of Environment Management	3	30 L 30 P		X
		EN 4022	Environmental Education, Journalism and NGO's	3	30 L 30 P		X
		EN 4023	Environmental Policies, Legislation and Administration	2	30 L		X
		EN 4024	Environmental Issues	3	45 L		X
		ZL 4060	Development Biology	2	30 L	X	
		ZL 4065	Wildlife Management	3	30 L 30 P	X	
		ZL 4066	Project Development	1	15 L	X	X
S2		ZL 4048	Seminar	1	15 L	X	X
		ZL 4049	Guided Reading and Essay	3	45 L	X	X
		EN 4025	Nuclear Technology and Environment	3	30 L 30 P		X
		EN 4026	Instrumentation for Environment Management	3	15 L 60 P		X

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

ANNEX 17 - S7: HONOURS DEGREE PROGRAMMES (Research Orientation)
Immunology & Integrative Molecular Biology

Level	Pre- req.	Course Unit	Title	No. Credits	Hours	
III		ZL 3058	Immunology	2		X
		ZL 3059	Molecular Biology	2	30 L	X
		ZL 3081	Cellular and Molecular Physiology	3	30 L	X
S1		ZL 3082	Foundations in Molecular Ecology	2	45 L	X
		ZL 3086	Population Genetics and Genomics	2	30 L	X
		ZL 3084	Practical Molecular Biology I	4	30 L	X
		ZL 3085	Advanced Applications in Immunology and Molecular Biology	2	120 P	X
		ZL 3080	Bioethics	1	30 L	X
		ZL 3087	Conservation Genetics	2	15 L	X
		ZL 3088	Applications and Management of Genetic Resources	1	30 L	X
S2		ZL 3083	Molecular Taxonomy	1	15 L	X
		ZL 3089	Immune System in Diseases	2	30 L	X
		ZL 3090	Practical Immunology I	4	120 L	X
		ZL 3091	Human Molecular Genetics	2	30 L	X
IV		ZL 4052	Research Project	8	240 P	X
		ZL 4081	Molecular Phylogeography and Evolution	2	30 L	X
		ZL 4070	Molecular Immunology	1	15 L	X
S1		ZL 4082	Epigenetics	2	30 L	X
		ZL 4083	Bioinformatics and Functional Genomics	2	30 L	X
		ZL 4084	Molecular and Immunotoxicology	1	15 L	X
		ZL 4085	Practical Molecular Biology II	4	120 L	X
		ZL 4048	Seminar	1	15 L	X
S2		ZL 4049	Guided Reading & Essay	3	45 L	X
		ZL 4087	Molecular Medicine	2	30 L	X
		ZL 4088	Practical Immunology II	4	120 P	X

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

ANNEX 18 - S8: HONOURS DEGREE PROGRAMMES (Research Orientation)
Nuclear Medical Science

Level	Pre-requisite	Course Unit	Title	No. Credits	Hours	
III		NS 3017	Applied Nuclear Science	3	30 L 30 P	X
		NS 3025	Radiobiology	3	45 L	X
		NS 3027	Human Anatomy and Physiology I	2	30 L	X
S1		NS 3029	Physics of Nuclear Medicine	2	30 L	X
		*	Elective	3	30 L	O
		PH 3034	Digital Image Processing	3	30 L 30 P	X
		NS 3023	Diagnostic Radiology I	3	45 L	X
		NS 3018	Health Physics	3	30 L 30 P	X
		NS 3028	Human Anatomy Practical	2	60 P	X
S2		NS 3022	Statistics for Nuclear Science	3	30 L 30 P	X
		NS 3024	Biological and Medical Ethics	1	15 L	X
		BT 3172	Special Topics in Bioinformatics	3	90 P	O
IV		NS 4029	Diagnostic Radiology II	3	30 L 30 P	X
		NS 4005	Clinical Education	1	30 P	X
		NS 4030	Nuclear Technology and Environment	3	30 L 30 P	X
S1		NS 4035	Applications of Radioisotopes in Medicine	3	45 L	X
		NS 4034	Human Anatomy and Physiology II	2	30 L	X
		NS 4006	Seminar and Essay	3	90 P	X
		NS 4032	Radiotherapy Physics	3	45 L	X
S2		NS 4007	Research Project	8	240 P	X
		NS 4108	Clinical Practice I	2	60 P	X
		NS 4109	Clinical Practice II	2	60 P	X

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

Note: * A third year course unit from any subject approved by the Department of Nuclear Science

ANNEX 19- S9: HONOURS DEGREE PROGRAMMES (Research Orientation)
Biochemistry and Molecular Biology

Level III

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	
S1		CH 3033	Chemistry of Biomolecules	3	45 L	O
		BC 3022	Metabolism I	2	30 L	X
		BC 3030	Practical Biochemistry and Molecular Biology	8	240 P	X
		MB 3022	Gene Expression and Regulation	3	45 L	X
		MB 3025	Recombinant DNA Technology and Applications	3	45 L	X
		BT 3053	Introduction to Bioinformatics	2	15 L 30 P	X
S2		CH 3054	Nutritional and Clinical Biochemistry	2	30 L	X
		BC 3023	Metabolism II	2	30 L	X
		BC 3024	Bio- Physical Chemistry	2	30 L	O
		BC 3025	Protein Structure and Function	2	30 L	X
		BC 3027	Enzymology	2	30 L	O
		MB 3024	Topics in Molecular Cell Biology	2	30 L	X

Level IV

Semester	Pre-requisite	Course Unit	Title	Credit Value	Hours	
S1		BC 4001	Research Project	8	240 P	X
		BC 4002	Seminar and Essay	3	90 P	X
		BC 4004	Optional Topics	4	60 L	X
		MB 4001	Genomics and Proteomics	3	45 L	X
		MB 4003	Molecular Evolution, Modelling and Computer Based Drug Design	3	30 L 30 P	X
		ZL 4058	Immunology	2	30 L	X
S2		BC 4003	General Paper	3	45 L	X
		BC 4005	Advanced Topics in Biochemistry and Molecular Biology	2	30 L	O
		BC 4006	Selected Topics in Biochemistry and Molecular Biology	2	30 L	O
		MB 4004	Applications in Biotechnology	3	45 L	X

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

ANNEX 20 – S10: HONOURS DEGREE PROGRAMMES (Research Orientation)
Industrial Statistics

Level	Pre-requisite	Course Unit	Title	Credit Value	Type	IS
III	IS 1009	IS 3001	Sampling Techniques	2	30 L	X
		IS 3050	Statistical Inference	3	45 L	X
		IS 3051	Advanced Statistical Process Control	2	30 L	X
		ST 3006	Regression Analysis	2	30 L	X
		ST 3074	Time Series Analysis	2	30 L	O
S1		ST 3076	Reliability Data Analysis	3	30 L 30 P	O
		ST 3085	Computational Statistics	2	15L 30P	X
		FM 3012	Economics I for Finance and Insurance	3	45 L	O
		MS 3002	Advanced Marketing Research	1	15 L	X
		MS 3009	Operational Research II	3	30 L 30 P	O
		MS 3011	Accounting for Finance	3	45 L	O
		CS 3112	Advanced Web Development	3	30 L 30 P	O
		IS 3003	Special Topics I	2	15 L 30 P	O
		IS 3052	Advanced Topics in Experimental Design	2	30 L	X
		IS 3053	Data Mining Techniques	2	15 L 30 P	X
S2		ST 3082	Statistical Learning, I	2	60 P	X
		ST 3083	Multivariate Data Analysis	3	45 L	O
		MS 3004	Quality Management/Project Management	2	30 L	X
		IT 3002	Database Systems	3	30 L 30 P	O
IV		IS 4002	Advanced Statistical Modeling	3	45 L	X
		IS 4003	Special Topics II	2	30 L	O
		ST 4011	Econometrics	2	30 L	O
		ST 4031	Stochastic Processes and Applications	3	45 L	X
S1		ST 4035	Data Science	3	30 L 30 P	O
		ST 4051	Scientific Writing	1	30 P	O
		ST 4052	Statistical Learning II	2	60 P	X
		MS 4007	Risk Management	2	30 L	O
		MS 4008	Industrial Psychology	2	30 L	O
		FM 4007	Economics II for Finance and Insurance	3	45 L	O
		IS 4005	Industrial Training	4	120 P	X
S2		IS 4006	Individual Project	8	240 P	X
		CS 4113	Natural Language Processing	3	30 L 30 P	O

X: Core courses ■: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

ANNEX 21: Honours Degree Programmes (Industry Orientation): IT

Level III

Semester	Pre-Requisite	Course Unit	Title	Credit Value	Hours	
S1		IT 3003	Advance Programming Techniques	3	30 L	30 P
		IT 3004	E-Commerce	2	20 L	20 P
		IT 3005	Data Mining	3	30 L	30 P
		IT 3006	IT Service Management	2	20 L	20 P
		MS 3006	General Management	2	20 L	20 P
S2		IT 3001	Management Information Systems	3	30 L	30 P
		IT 3002	Database Systems	3	30 L	30 P
		IT 3007	Data Structures & Algorithms	3	30 L	30 P
		MS 3007	Strategic Human Resource Management	2	20 L	20 P
Total Credit Value = 30*						

*Students who want to follow IT theme must select the above 23 credits. The other 7 credits must be chosen from other available 3rd year course units.

Level IV

Semester	Pre-Requisite	Course Unit	Title	Credit Value	Hours	
S1		IT 4004	Advanced Database Systems	3	30 L	30 P
		IT 4005	Advanced Software Engineering	3	30 L	30 P
		IT 4006	Enterprise Applications Development	3	30 L	30 P
		IT 4007	Network Information Systems	3	30 L	30 P
		MS 4003	Strategic Decision Making	3	30 L	30 P
S2		FS 4004	Industrial Training	12		

Note: Students need to register for 3 credits from other available 4th year course units in semester 1

Honours Degree Programme (Industry Orientation): Electronics & IT

LEVEL III

Semester	Course Unit	Title	Credit Value	Hours	
S1	PH 3007	Analogue and Digital Electronics II	3	45 L	X
	PH 3036	Microcontrollers and Embedded Systems	3	90 P	X
	PH 3037	Mobile Application Development	3	90 P	X
	PH 3039	Data Acquisition Laboratory	3	90 P	X
	IT 3003	Advanced Programming Techniques	3	30 L 30 P	X
S2	PH 3020	Computational Physics Lab	3	90 P	X
	PH 3038	Electronic Circuit Designs & Simulation	3	30 L 30 P	X
	PH 3042	Robotics & Automation	3	90 P	X
	IT 3002	Database Systems	3	30 L 30 P	X
	IT 3007	Data Structures and Algorithms	3	30 L 30 P	X

LEVEL IV

Semester	Course Unit	Title	Credit Value	Hours	
S1	PH 4005	Electronics Communication Techniques	3	45 L	O
	PH 4013	Solid State Devices and Optoelectronics	3	45 L	O
	PH 4016	Power Electronics	3	45 L	O
	IT 4004	Advanced Database Systems	3	30 L 30 P	O
	IT 4005	Advanced Software Engineering	3	30 L 30 P	O
	IT 4006	Enterprise Application Development	3	30 L 30 P	O
	PH 4007	Industrial Management	3	45 L	X
	PH 4019	Industrial Automation	3	45 L	X
S2	FS 4001	Industrial Training	12	_	X

 Pre-requisites: Level I & II Physics & Computer Science Core courses and PH 1021, PH 2021

Honours Degree Programme (Industry Orientation): Applied Statistics

Level	Pre-requisite	Course Unit	Title	Credit Value	Hours	PS	IS
III		ST 3007	Operational Research	3	45 L	O	
	ST 2010	ST 3008	Applied Statistical Models	3	30 L 30 P	X	X
		ST 3009	Applied time Series	2	30 L	X	X
		ST 3010	Introduction to Health Statistics	2	15 L 30 P	O	O
S1	IS 1009/	IS 3001	Sampling Techniques	2	30 L	X	X
	ST 1011	CS 3008	Introduction to Data Structures & Algorithms	3	30 L 30 P	X	X
		MS 3009	Operational Research II	3	30 L 30 P		O
		IT 3003	Advanced programming Techniques	3	30 L 30 P	X	X
		ST 3011	Statistical Programming	2	60 P	X	X
	ST 2008/	ST 3012	Statistical Process Control	2	30 L	O	O
	MS 2001	ST 3013	Essential Mathematics in Statistics	3	45 L	X	X
		IS 3004	Applied Multivariate Methods	2	30 L	X	X
S2		IS 3005	Statistics in Practice I	3	90 P	X	X
		MS 3004	Quality Management/Project Management	2	30 L	O	O
		IT 3002	Database Systems	3	30 L 30 P	X	X
IV		ST 4011	Econometrics	2	30 L	X	X
		ST 4035	Data Science	3	30 L 30 P	X	X
		ST 4036	Time to Event Analysis	2	30 L	X	X
S1	ST 3010	ST 4037	Epidemiology	2	30 L	O	O
		IS 4007	Statistics in Practice II	3	90 P	X	X
		MS 4007	Risk Management	2	30 L	O	O
		MS 4008	Industrial Psychology	2	30 L	X	X
		IT 4004	Advanced Database Systems	3	30 L 30 P	X	X
		IT 4005	Advanced Software Engineering	3	30 L 30 P	O	O
S2		IS 4009	Industrial Training	6	180P	X	X
		IS 4010	Industry Research Project	6	180P	X	X

Honours Degree Programme (Industry Orientation): Business & Environment

Level		Course Unit	Course Unit	Credit Value	Hours	
III		EN 3911	Business and Environment	3	45 L	X
		EN 3904	Adapting Business for Climate Change	3	30 L 30 P	X
		EN 3013	Natural Hazards & Disaster Risk Management	3	30 L 30 P	X
S1		FS 3003	Intellectual Property Rights	1	15 L	X
		BT 3009	Environment& Biodiversity Related Legislation in Sri Lanka	1	15 L	X
		CH 3010	Environmental Chemistry	2	30 L	X
		EN 3905	Sustainable Tourism	2	30 L	X
		EN 3906	Environmental Communication	2	15 L 30 P	X
		EN 3064	Environment & Industry	3	30 L 30 P	X
S2		BT 3058	Bioprospecting	2	30 L	X
		BT 3071	Experimental Design & Data Analysis	2	15L 30P	X
		EN 3907	Group Project	3	90 P	X
		EN 3908	Case Studies	1	15L	X
IV		ZL 4091	Project Development	2	20 L 20 P	X
		ZL 4902	Seminar	1	15 L	X
		EN 4021	Tools of Environment Management	3	30 L 30 P	X
S1		FS 4005	Entrepreneurship	3	30 L 30 P	X
		FS 4006	Business Accounting	3	45 L	X
		FS 4007	Human Resource Management	3	45 L	X
		FS 4008	Environment Economics	3	30 L 30 P	X
S2		EN 4909	Industrial Training	6	180 P	X
		EN 4910	Industry Research Project	6	180 P	X

* EN 3901, EN 3902 and EN 3013 will be offered to the 3-year general degree students

Honours Degree Programme (Industry Orientation): Horticulture &Sustainable Landscaping

Level	Pre-requisite	Course Unit	Title	Credit Value	Hours	
III		BT 3006	Plant Tissue Culture Technology	3	30 L 30 P	X
		FS 3003	Intellectual Property Rights	1	15 L	X
		BT 3009	Environment and Biodiversity Related Legislation in Sri Lanka	1	15 L	X
		BT 3901	Fundamentals of Landscaping	3	30 L 30 P	X
S1		BT 3903	Pest and Plant Disease Management	2	15 L 30 P	X
		BT 3906	Computer Applications in Landscape Design	3	90 P	X
		EN 3013	Natural Hazards and Disaster Risk Management	3	30 L 30 P	X
		BT 3905	Plant Propagation	3	15 L 60 P	X
S2		BT 3073	Methods in Plant Breeding	2	20 L 20 P	X
		BT 3904	Commercial Horticulture and Floriculture	4	45 L 30 P	X
		BT 3907	Amenity and Therapeutic Horticulture	3	30 L 30 P	X
		BT 3902	Landscaping Assignment	2	60 P	X
IV		BT 4125	Post -harvest Technology	2	20 L 20 P	X
		BT 4908	Soil Management	2	15 L 30 P	X
		BT 4901	Landscape Maintenance and Management	2	15 L 30 P	X
S1		FS 4005	Entrepreneurship	3	30 L 30 P	X
		ZL 4901	Project Development	2	20 L 20 P	X
		FS 4001	Business Accounting	3	45 L	X
		FS 4007	Human Resource Management	3	45 L	O
		BT 4020	Agro-biotechnology	3	30 L 30 P	O
		BT 4909	Industrial Training	6	180P	X
S2		BT4910	Industry Research Project	6	180P	X
		BT 4903	Seminar and Report	1	30 P	X

Honours Degree Programme (Industry Orientation): Insurance & Finance

Level III	Pre-requisite	Course Unit	Title	Credit Value	Type	Core or Elective
S1		AM 3031	Mathematical Methods I	3	45 L	X
		FM 3032	Quantitative Finance	3	45 L	X
		FM 3012	Economics I for Finance and Insurance	3	45 L	X
		MS 3011	Accounting for Finance	3	45 L	X
		MS 3006	General Management	2	20 L 20 P	O
		IT 3004	E- Commerce	2	20 L 20 P	O
		ST 3006	Regression Analysis	2	30 L	O
S2	FM 3032	MS 3007	Strategic Human Resource Management	2	20 L 20 P	O
		FM 3006	Insurance Market and Products	3	30 L 30 P	X
		FM 3035	Game Theory and Decision Theory	3	30 L 30 P	O
		FM 3008	Case Study in Finance	4	120 P	X
Level III		EC 3031	Community Service	4*	120 P	■
Level IV						
S1	FM 3012	FM 4007	Economics II for Finance and Insurance	3	45 L	O
	FM 3008	FM 4008	Case Study in Insurance	3	90 P	O
		MS 4003	Strategic Decision Marking	3	30 L 30 P	X
		MS 4004	Statement Analysis	3	30 L 30 P	X
		MS 4005	Professional Development in Finance & Insurance	3	30 L 30 P	X
S2	MS 4005	MS 4006	Entrepreneurship in Insurance & Finance	3	30 L 30 P	X
		FM 4010	Industrial Training	6	180 P	X
		FM 4011	Industrial Research Project	6	180 P	X

X: Core courses ■:: Compulsory courses O: Elective courses L: Lectures P: Practicals / Labs

*: Will not be considered when calculating GPA

Honours Degree Programme (Industry Orientation): Science & Management

Level III

Semester	Pre Req.	Course Unit	Title	Credit value	Type	
		AM 3004	Mathematical Modeling for Economics and Business	3	45 L	X
		AM 3004	Mathematical modeling in Economics & Business	3	45 L	O
		AM 3005	Mathematical Methods	3	45 L	O
		AM 3006	Financial Mathematics	3	45 L	O
		AM 3008	Corporate Finance	3	30 L 30 P	X
		BT 3001	Plant Pathology	3	30 L 30 P	O
		FS 3003	Intellectual property Rights	1	15 L	O
		BT 3073	Methods in Plant breeding	2	20 L 20 P	O
		CH 3001	Topics in Analytical Chemistry I	2	30 L	O
		CH 3003	Industrial Chemistry	2	30 L	O
S1		CH 3004	Laboratory Management	1	15 L	X
		CH 3010	Environmental Chemistry	2	30 L	O
		EN 3013	Natural Hazards and Disease Risk Management	3	30 L 30 P	O
		EN 3019	Climate Change	3	30 L 30 P	O
		EN 3901	Introduction to Business & Environment	1	15 L	O
		EN 3902	Business & Biodiversity	2	30 L	O
		EN 3903	Sustainable Development & Business	2	30 L	O
		MS 3006	General Management	2	20 L 20 P	X
		PH 3007	Analogue and digital electronics II	3	45 L	O
		PH 3008	Astronomy	3	45 L	O
		PH3001	Quantum Mechanics 1	3	45 L	O
		PM 3002	Complex analysis	3	45 L	O
		ZL 3015	Introduction to Biological Psychology	1	15 L	O
		AM 3007	Computer Application in combinatorics	3	30 L 30 P	O
		BT 3002	Horticulture	3	30 L 30 P	O
		BT 3003	Plant Molecular Biology	2	30 L	O
		CH 3005	Chemical Technology	2	30 L	O
		CH 3007	Topics in Analytical Chemistry II	1	15 L	O
		CH 3901	Bio Analytical Chemistry I	2	30 L	O
		EN 3064	Environment and Industry	3	30 L 30 P	O
		IT 3001	Management information systems	3	30 L 30 P	O
		MB 3903	Nano Biotechnology	2	30 L	O
S2		MS 3004	Quality Management	2	30 L	X
		MS 3007	Strategic Human Resource Management	2	30 L	X
		MS 3008	Accounting for Finance	3	45 L	X
		MS 3011	Business Economics I	2	30 L	X
		NS 3019	Medical Physics	3	45 L	O
		PH 3002	Environmental Physics	3	45 L	O
		PH 3004	Nuclear Physics	3	45 L	O
		PH 3040	Design Patterns in Software Engineering	3	45 L	O
		PM 3003	Algebra	3	45 L	O
		PM3001	Real Analysis	3	45 L	O
		ZL 3006	Molecular Biological and immunological Applications	2	30 L	O
		ZL 3014	Economic Zoology	3	30 L 30 P	O

Level IV

	Pre Req.	Course Unit	Title	Credit value	Type	
S1		CH 4091	Bio Analytical Chemistry II	2	30 L	O
		FM 4007	Economics II for Finance and Insurance	3	45 L	O
		FS 4005	Entrepreneurship	3	45 L	O
		FS 4006	Business Accounting	2	30 L	X
		FS 4008	Environmental Economics	2	30 L	O
		MB 4005	Medical Biotechnology	2	30 L	O
		MB 4008	Selected Topics in Biotechnology	2	30 L	O
		MS 4003	Strategic Decision Making	3	30 L 30 P	X
		MS 4007	Risk Management	2	30 L	O
		MS 4008	Industrial Psychology	2	30 L	X
		MS 4009	Business Economics II	2	30 L	X
		PH 4005	Electronic Communication Techniques	3	45 L	O
		PH 4007	Industrial Management	2	30 L	O
		PH 4016	Power Electronics	3	45 L	O
		ST 4011	Econometrics	2	30 L	X
S2		MS 4013	Internship Training	12		X

Note:

No guarantees are offered that all elective courses will be available to all interested students, because of possible time table clashes. It is the responsibility of students to select courses, such that they do not coincide with other courses, particularly compulsory ones.

Honours Degree Programme (Industry Orientation):
Molecular Biology & Biotechnology
Level III

Semester	Course unit	Course Title	Credit Value	Hours	
S1	BC 3021	Food Chemistry	2	30L	O
	BC 3022	Metabolism 1	2	30L	X
	BC 3026	Laboratory Techniques in Biochemistry and Molecular Biology	4	120P	X
	MB 3003	Introduction to Genomics and Proteomics	2	30L	X
	MB 3022	Gene Expression and Regulation	3	45L	X
	MB 3023	Recombinant DNA Technology	2	30L	X
	BT 3053	Introduction to Bioinformatics	2	15L 30P	X
	MS 3006	General Management	2	20L 20P	O
S2	BC 3023	Metabolism II	2	30L	X
	BC 3027	Enzymology	2	30L	X
	MB 3901	Molecular Cell Biology	2	30L	X
	MB 3902	Animal & Plant Biotechnology	2	30L	X
	MB 3903	Nanobiotechnology	2	30L	O
	CH 3901	Bioanalytical Chemistry I	2	30L	X
	BT 3167	Phylogenetic Analysis	1	10L 10P	O
	FS 3004	History and Philosophy of Science	1	15L	O
	MS 3007	Strategic Human Resource Management	2	20L 20P	O

Level IV

Semester	Course Unit	Course Title	Credit Value	Hours	
S1	MB 4003	Molecular Evolution, Modeling & Computer Based Drug Design	3	30L 30P	O
	MB 4901	Medical Biotechnology	2	30L	X
	MB 4902	Environmental Biotechnology	2	30L	X
	MB 4903	Marine Biotechnology	2	30L	X
	MB 4904	Selected Topics in Biotechnology	2	30L	X
	MB 4905	Group project/Assignment	4	120P	X
	MB 4906	Biotechnology Seminar	1	15P	X
	CH 4901	Bioanalytical Chemistry II	2	30L	O
	FS 4005	Entrepreneurship	3	30L 30P	O
	FS 4006	Business Accounting	3	45L	O
S2	MB 4908	Industrial Training	6	180P	X
	MB 4909	Industrial Project/Internship	6	180 P	X

Honours Degree Programme (Industry Orientation):

Nuclear Technology

Level III

Semester	Course unit	Course Title	Credit Value	Hours	
S1	NS 3017	Applied Nuclear Science	3	30L 30P	X
	NS 3901	Radiobiology	3	45L	X
	NS 3902	Nuclear Power	3	45L	X
	NS 3903	Environmental Radiation	3	30L 30P	X
	NS 3904	Mathematics for Nuclear Science	3	30L 30P	X
S2	NS 3019	Medical Physics	3	45L	X
	NS 3018	Health Physics	3	30L 30P	X
	PH 3034	Digital Image Processing	3	45L	X
	NS 3022	Statistics for Nuclear Science	3	30L 30P	X
	*	Elective Course	3		X

Level IV

Semester	Course unit	Course Title	Credit Value	Hours	
S1	NS 4901	Nuclear Electronics	3	30L 30P	X
	NS 4902	Ethics	2	30L	X
	NS 4903	Nuclear Regulations	2	30L	X
	NS 4904	Radiochemical Methods	3	30L 30P	X
	NS 4006	Seminar & Essay	3	90P	X
	NS 4905	Non-Destructive Testing	3	30L 30P	X
	NS 4906	Nuclear Technology in Physical Science	2	30L	X
S2	NS 4908	Industrial Training	6	180P	X
	NS 4909	Industry Oriented Research Project	6	180P	X

Notes: * A third year course unit from any subject approved by the Department of Nuclear Science

Prerequisites: Level I and II NS core courses

ANNEX 22- Enhancement Courses

Level	Semester	Course Unit	Title	Credit Value	Hours
1	1	EC 1001	English	3	45 L
	1	EC 1015	Career and Personal Development I	1	15 L
	2	EC 1004	Information Skill Development	1	30 P
	2	EC 1016	Career Planning	1	30 P
	1, 2	See Annex 23	*Sports	1	30 P
2	1	EC 2001	Technical Writing for Academic Purposes	2	15 L, 30 P
	1	EC 2015	Career and Personal Development II	1	15 L
	2	EC 2003	Practical Applications in Electronics	1	30 P
	2	EC 2004	Photography	1	15 L
	2	EC 2020	Enterprise, Entrepreneurship and Innovations	1	15 L
	1, 2	See Annex 23	*Sports	1	30 P
3	5	EC 3015	Career and Personal Development III	2	30 L
	6	EC 3001	Advanced Communicative Skills	2	15 L, 30 P
	5, 6	See Annex 23	*Sports	1	30 P
4	7, 8	See Annex 23	*Sports		30 P

Sports

Enhancement Courses can be obtained by participating in the following sports. Please fill in the relevant codes of a sport, for a particular year, based on the following.

If a student has participated in a sport for which the student has been registered, then, credits can be claimed by filling in a sports credit form in duplicate and handing over one copy to the Dean's office, Faculty of Science, and the other to the Department of Physical Education, at least by the start of the next academic year. Final year students should hand in these forms by the last day of the second semester in the final year. Non-adherence to these deadlines will result in the automatic cancellation of the registration for that sport in that year.

Annex 23: Course code for the sports activities

Course Unit				
Sport (IC)	First Year	Second Year	Third Year	Fourth Year
Badminton	1051	2051	3051	4051
Baseball	1052	2052	3052	4052
Basketball	1053	2053	3053	4053
Carrom	1054	2054	3054	4054
Chess	1055	2055	3055	4055
Cricket	1056	2056	3056	4056
Elle	1057	2057	3057	4057
Football	1058	2058	3058	4058
Hockey	1059	2059	3059	4059
Karate	1060	2060	3060	4060
Netball	1061	2061	3061	4061
Road Race	1062	2062	3062	4062
Rowing	1063	2063	3063	4063
Rugby	1064	2064	3064	4064
Swimming	1065	2065	3065	4065
Table tennis	1066	2066	3066	4066
Taekwondo	1067	2067	3067	4067
Tennis	1068	2068	3068	4068
Track	1069	2069	3069	4069
Track Field	1070	2070	3070	4070
Volleyball	1071	2071	3071	4071
Weightlifting	1072	2072	3072	4072
Wresting	1073	2073	3073	4073

For information regarding times and venues of the above sports, please contact the Director or Coordinators at the Department of Physical Education.

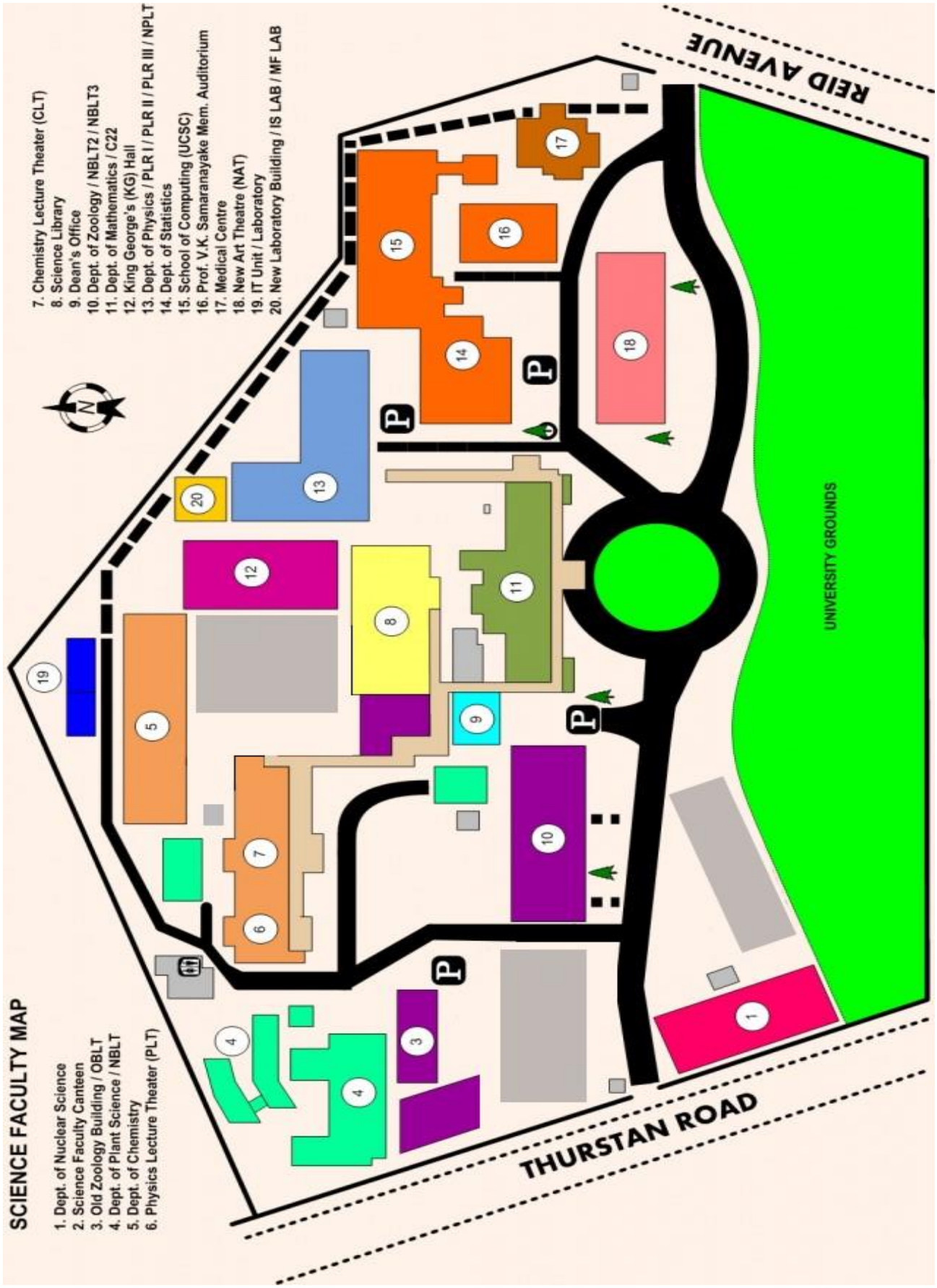
Procedure for registering and obtaining sports credits

Students offering the above sports as an Enhancement Course in the Faculty of Science will be required to follow the criteria given below.

Registration: A student offering or intending to offer sports as an Enhancement Course in a particular year, would have to register on-line for the sport within the first two weeks of that year. A student intending to offer the same sport in two different years would have to register separately, for that sport in each of the two years.

Claiming sports credits: A student can only claim credits for sports for which the student has been registered at the start of a particular year.

Map of Faculty of Science, University of Colombo



THE COAT OF ARMS

The Coat of Arms of the University consists of a burning lamp with a palm leaf manuscript in front as its central motif. It is surrounded by a circle of swans carrying buds of lotuses in their beaks. In the perimeter is the traditional design called palapeti - i.e. lotus petals in a decorative motif. The circular emblem is surmounted by the figure of a lion bearing a sword in its right hand, and at the bottom is a scroll containing the University motto.

The lamp is the traditional symbol of light, illumination, enlightenment, hence of wisdom. The luster of the lamp radiates all round symbolising the spread of the light of learning. The palm leaf manuscript also symbolises knowledge - learning. A manuscript is a book of knowledge. The line of swans (also referred to as geese) depicted as carrying lotus buds in their beaks is a decorative motif in Sinhala Art, and stands for discrimination, purity and strength of character. The lotus itself is a symbol of purity in Sinhala Art.

The lotus petal motif around the circle of swans is called palapeti - a form of ornament derived directly from the lotus. It is a border moulding, consisting of lotus petals; the petals fully seen, alternating with petals three parts hidden by those on either side. The lion with the sword represents Sri Lankan identity. Hence, the Coat of Arms taken in its entirety, depicts socio-cultural concepts of religious and national origin. As a whole, in its symbolic aspect, it stands to champion wisdom and virtue.

The motto in Sanskrit script which reads as 'Buddhi Sarvatra Bharatje' means 'Wisdom shines forth everywhere', i.e. that the wise are honored everywhere. The term 'Buddhi' has a religious significance in Buddhism. It denotes Enlightenment or Perfect understanding.

(From the University Calendar 2000/2001)