The Open University of Sri Lanka

Faculty of Natural Sciences

BSc (IT)

Undergraduate Guidebook

2023-2024

The Open University of Sri Lanka

Faculty of Natural Sciences

BSc (IT) Undergraduate Guidebook
2023/2024

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Programmes / Courses of Study Offered By the Faculty of Natural Sciences, OUSL

Programmes/Courses described in this Guidebook

Bachelor of Science in Information Technology Degree

Bachelor of Science (Honours) in Information Technology Degree

Higher Diploma in Information Technology

Other Programmes/Courses

Bachelor of Science Degree

Bachelor of Science (Honours) Degree

Higher Diploma in Science

M.Sc. in Environmental Sciences   (Inter faculty Programme)

M.Sc. in Medical Entomology and Applied Parasitology

Bachelor of Education (Natural Sciences) Level 3 & 4(Faculty of Education)

Diploma in Microbiology (Blended Online Programme)

Diploma in Food Science

Diploma in Environmental Science

Diploma in Natural Resources and Ecotourism

Diploma in Plant Breeding

Diploma in Plant Tissue Culture

Diploma in Science in Laboratory Technology

Advanced Certificate in Science

Advanced Certificate in Laboratory Technology

Advance Certificate in Wildlife Conservation & Management

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Short course in PHP MySQL Web Development

Short course in Soil-less Agricultural Techniques for Urban gardning

Short course in Proffesional Web development using Joomla & Wordpress

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Faculty of Natural Sciences

Mission

**To be innovative in teaching-learning and research
demonstrating leadership in open and distance learning in the fields of Science,
with a commitment to achieve national goals**

Objectives

To develop motivated personnel successful in their academic, career & life-long learning goals

To offer quality programmes informed by current needs and demands

To support the community and the nation through partnerships and public service

To promote research, scholarship and enterprise activities

To increase the outreach of the sciences via open access & distance education

Message from the Dean

Welcome to the Faculty of Natural Sciences

Senior Professor G.W.A. Rohan Fernando
Dean/ Faculty of Natural Sciences

On behalf of the Faculty of Natural Sciences of the Open University of Sri Lanka (OUSL), let me welcome you to our university to pursue your higher studies and fulfill your educational aspirations. I am pleased that you have chosen a Bachelor of Science in Information Technology degree (BSc (IT)) offered by Sri Lanka's only Open and Distance Learning University, OUSL, to obtain the skills and qualifications required to succeed in any competitive environment.

The Faculty of Natural Sciences at OUSL has over 30 years of experience delivering Bachelor of Science degree programmes through Open and Distance Learning (ODL) methodologies. Due to the nature of its teaching methodology and infrastructure, the OUSL is successfully able to serve a large student population spread throughout the country with more than 100 permanent academics employed in almost all Regional Cen¬tres. Currently the Faculty of Natural Sciences offers a wide range of quality academic programmes in varying disciplines in sciences.

The Bachelor of Science in Information Technology degree (BSc (IT)) is the second undergraduate degree program awarded by the Faculty of Natural Sciences of the OUSL. The BSc (IT) de-gree program is recognized by the University Grants Commission (UGC) and are given the same recognition as those awarded to students studying at other Sri Lankan national universities. The courses offer is suited to all those who wish to obtain up-to-date knowledge, skills and insight into the Information Technology to meet the challenges of today's dynamic, complex and competitive environment. Further, the training in the Information Technology involves not only acquiring new knowledge, but also applying findings to improve our world, and developing the critical reasoning and problem-solving skills required to use Information Technology knowledge wisely. It will equip you with the ability to contribute to the new frontiers in Information Technology.

All the programs offered through the Faculty of Natural Sciences are specially designed to suit those with other commitments such as full-time employment, financial obligations and fami¬ly commitments. Our unique system of ODL, developed over the years, gives you the flexibility to engage in your studies at your own place and at your own pace, at an affordable price.

To date, the Faculty of Natural Sciences at OUSL has very successfully educated thousands of individuals throughout the country. Our learner support system will guide you and assist you at every stage of your academic career from your very first day of registration up to completion of the program.

Going to university is a challenge. Being a distance learner can be even more challenging. As I mentioned earlier, you have the flexibility to choose the place, time, and space at which you will pursue your studies at the OUSL. However, you should be self-motivated, persistent, learn to work independently, learn to manage your time, and determined to work hard to complete your studies.

This undergraduate handbook is carefully designed to be as comprehensive as possible in giving all the essential information needed for a student who plans to follow the BSc (IT) degree program offered by the Faculty of Natural Sciences of the OUSL.

Thank you for choosing your higher studies at the Faculty of Natural Sciences of the OUSL and warmly welcome you as part of our undergraduate student community. Please go through the information to find out more about us. I wish you all the success in all your efforts to acquire a recognized qualification from our faculty.

On behalf of our faculty I wish you good luck in all your future endeavors.

GENERAL INFORMATION

The University and the Faculty

The Open University of Sri Lanka (OUSL) is the premier Open and Distance learning institution in Sri Lanka where students can pursue their studies through Open and Distance Learning (ODL) methodologies.

Established in 1980, under the Universities Act No. 16 of 1978 and OUSL Ordinance No. 1 of 1990, as amended, the OUSL has the same legal and academic status as any other national University in Sri Lanka. According to the Public Administration Circular No. 16/92, dated 13.03.92, issued by the Ministry of Public Administration, Provincial Councils & Home Affairs, the degrees awarded by The Open University of Sri Lanka are equivalent to degrees awarded by any other University under the purview of the University Grants Commission.

Due to the nature of its teaching methodology and infrastructure, the OUSL is able to serve a large student population spread throughout the country. Currently, there are over 30,000 students studying at the OUSL, who are being served by nine Regional Centres and eighteen Study Centres located around the country (Fig. 1). The Central Campus and the Colombo Regional Centre are situated at Nawala. The other eight Regional Centres are situated at Kandy, Matara, Jaffna, Anuradhapura Batticaloa, Kurunegala, Badulla and Ratnapura.

The academic and the administrative Head of the University is the Vice-Chancellor. The Senate of the University, which is chaired by the Vice-Chancellor, is the highest body that makes decisions regarding academic matters. The University has five Faculties: Natural Sciences, Engineering Technology, Humanities and Social Sciences, Education and Health Sciences.

The Faculty of Natural Sciences consists of six Departments; Botany, Chemistry, Computer Science, Mathematics , Physics and Zoology. The Department of Health Sciences which was under the Faculty of Natural Sciences was upgraded to a new Faculty of Health Science in 2015. The Faculty is administered under the leadership of the Dean of the Faculty; each Department is under a Head and all Departments are collectively responsible for all academic activities of the Faculty. The Faculty Board of Natural Sciences regulates all academic activities in the Faculty, under the guidance of the Senate of the University.

Studying at OUSL

The distance learning methodology adopted by the OUSL may initially appear as a challenging task for you. However, very soon you will learn that it is a rewarding and enjoyable experience. In addition to gaining subject knowledge and skills, you will be developing many other life skills, including self-organization and time management. Regular lectures, a feature of face-to-face teaching at a conventional university, is minimal at the OUSL. Instead, students learn through carefully prepared study material together with other forms of support that facilitate learning.

The Study Package

The Open University adopts a multimedia system for teaching with a strong emphasis on distance study. The study system supports the students through printed course material, audio-visual aids, discussions, day schools, laboratory/field work, industry training and web-based learning. Continuous assessments and final examinations are also integral parts of the study system.

Printed course material is the central element in the study package. Improving reading skills is therefore essential to be successful as an OUSL student. Where applicable, you will also be provided with other supportive material applicable to a course, such as study guides, practical guides and audio-visual material.

Printed course material are carefully prepared to suit self-study and independent learning. The printed course material provide the student the subject knowledge of the course. They clearly outline the objectives of the course and what the student will be able to achieve by studying the course. Self-assessment questions and activities included in the course materials will enable the learners to continuously assess themselves as they proceed. Printed course material are usually provided at the time of registration for a programme/course.

Figure 1

Centre	Code	Address (Telephone)
The Open University Regional Centres (OURC)		
Colombo	WP10	OURC, Nawala, Nugegoda (011-2853930)
Jaffna	NP40	OURC, Browns Road, Kokuvil, Jaffna (021-2223374)
Kandy	CP20	OURC, Polgolla, Kandy (081-2494083 - 081-2494084)
Matara	SP30	OURC, Nupe, Matara (041-2222943)
Anuradhapura	NC50	OURC, Jayanthi Mawatha (Depot Area), Anuradhapura (025-2222871)
Batticaloa	EP60	OURC, 23, New Road, Batticaloa (065-2222264)
Badulla	UP80	OURC, 08, Bandaranayaka Mw, Badulla, (055-2228842)
Kurunegala	NW70	OURC, Negombo Rd, (Nissanka Mw Junction), Malkaduwawa, Kurunegala (037-2223473)
Ratnapura	SG90	OURC Hiddellana, Ratnapura (045-2228660)
The Open University Study Centres (OUSC)		
Ambalangoda	SP31	80/1, Polwatte Road, Halwatura Ambalangoda (091-2258585)
Ambalanthota	SP33	Rajasaranagama Road, Lunama South , Ambalanthota (047-2225533)
Ampara	EP61	Inginiyagala Road, Samapura, Ampara. (063-2222052)
Bandarawela	UP81	St. Thomas Road, Wewatenna, Bandarawela (057-2222820)
Galle	SP32	Labuduwa, Galle (091-2223784)
Gampaha	WP11	Gampaha Road, Miriswatte, Mudungoda.(033-2234571/033-2234572)
Hatton	CP21	Thondaman Vocational Training Centre, Hatton (051-2225139)
Kalutara	WP12	66/2, Nagoda Road, Kalutara (034-2223399)
Kegalle	SG91	Kumaratunge Munidasa Mawatha, Kegalle (035-2222501)
Moneragala	UP82	Technical College Junction, Sirigala, Potuvil Road, Moneragala (055-2277 395)
Matale		No 9, MC Road, Matale 0662058083 (081 2494083)
Polonnaruwa	NC51	24th Mile Post, Bendiwewa, Jayanthipura, Polonnaruwa (027-2225776)
Puttalam	NW71	1/137, Colombo Road, Puttalam (032-2266822)
Vavuniya	NP41	366, Kandy Road, Thekkawaththai, Vavuniya (024-2222995)
Killinochchi	NP42	155th Mile Post, Kandy Road, Killinochchi (021-2283970)
Trincomalee	EP62	26/A, Post Office Rd, Trincomalee (026-2222088)
Mullaitiv	NP43	Aathiparasakthy Ariviyal College, Ward No. 04, Irranaippalai Veethy, Puthukkudiyiruppu, Mullaithiv.
Mannar	NP44	OUSC, RDS Building, Minor Seminary Road, Chavatkaddu, Mannar. (0232-251999)
Nattandiya		Marawila - Nattandiya Rd, Nattandiya

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OUSL Vocabulary

Once you become a student of the OUSL, you need to be familiar with the OUSL terminology. It is important that you understand these terms clearly and be vigilant of these, since most are related to your performance in studies.

A Programme of Study consists of a combination of compulsory and optional courses, which leads to the award of Certificate, Advanced Certificate, Diploma, Degree or a Postgraduate Degree. For example, the Bachelor of Science in Information Technology Degree Programme is a programme of study which leads to the award of BSc (IT) Degree.

A Stand Alone Course is a course which can be considered as a separate entity. These courses can be offered by any person who wishes to upgrade the knowledge in a particular subject area, without registering for a regular programme of study, such as a Degree or Certificate Programme. For example, a person who is interested in learning Natural Products Chemistry can register only for that course, as a stand alone course. Many courses of the Degree Programmes are offered as stand alone courses.

Continuing Education Courses are offered for students registered for regular programmes of study to widen their knowledge in areas of their choice. These include support courses, such as Mathematics, English, Computer literacy and Motivation and Study habits. A student can offer a limited number of continuing education courses, over and above the maximum workload allowed during an academic year.

Foundation Courses in OUSL

Foundation courses are offered to those who need to attain academic qualifications equivalent to that of G.C.E (A/Levels). Thus, these are particularly suited for students who lack direct entry requirements for the Degree Programme.

Credit Rating

Programmes as well as courses carry a credit rating. The 'credit rating' is the expression used in the OUSL to denote the "academic value" of a course or programme. Please note that the word `credit' does NOT imply any measure of academic performance at an examination such as a Credit pass at GCE Ordinary or Advanced Level Examinations. The credit rating gives a measure of the time expected to be spent on studying the course. At the OUSL, one credit is about 50 notional hours of study time. The time specified for a course takes into account all aspects of work involved, including reading and understanding course material, face-to-face- sessions, continuous assessments, consultation of reference material and practical classes.

Based on the SLQF recommendations, from 2017/2018 the credit rating of a Certificate will be 15 credits, a Diploma 30 credits and Undergraduate degrees 90 credits and 120 credits depending on the three or four year programme.

The credit rating of courses also vary (Table 1). The minimum credit rating of courses presently offered by the Faculty of Natural Sciences is 1. Average total time expected to be spent on a 3 credit course is around 150 notional learning hours. In actual study time, this would mean a student is expected to spend 6 hrs per week on average, for a 3 credit course that is offered during one semester (24 weeks).

Table 1: Credit rating

Credit rating	2	3	5	6	9	15	30
Average study hours	100	150	250	300	450	750	1500

The maximum workload a student may undertake in an academic year is 30 credits. A student may register for a maximum of two programmes in the Open University (one credit is considered equivalent to 50 notional learning hours). However, the maximum workload undertaken between both programmes should not exceed 30 credits. This corresponds approximately to the workload undertaken in an academic year by a full-time student in a conventional University. Many students, who are either employed or with other commitments find it difficult to spend this much of time for their studies and handle this full workload.

Course Code

Each course offered by the Faculty is assigned a course code. This code includes certain components of identification that uniquely identifies the course.   The particular subject area/discipline is one component of identification used when assigning course codes. The specific letters assigned to the different areas/disciplines of study are shown in Figure 2.

The course code also informs the programme of study for which the course is offered and the level of study at which it is offered. Courses for undergraduate degrees are offered at Levels 3 to 6, whilst Courses in Foundation are offered at Level 1 & 2. In assigning course codes, the **Programme of study** is identified by a letter and the **level of study** is identified by a digit. For instance, undergraduate courses are identified by the letter **U** and Continuing Education courses are identified by the letter **E** (Table 2).

Incorporating all of the above components, each course is assigned a course code consisting of 7 alphanumeric characters. The first three letters indicate the area of discipline and the programme of study. The first digit reflects the level of study, the second digit will give the credit rating. The last two digits give a unique serial number for the course. An example of a course code is shown in Figure 3.

Table 2: Programmes/Levels of study

Level	Programme of study					
	Foundation	Certificate	Diploma	Undergraduate	Postgraduate	Stand Alone/ Continuing Education
1	F1	C1				E1
2	F2	C2				E2
3			D3	U3		E3
4			D4	U4		E4
5				U5		E5
6				U6		E6
7					P7	E7
8					P8	E8

Computer Science	CO

Information Technology	IT

Information Systems	IS

Applied Mathematics	AD

Figure 2. Area/Discipline of study

Area / Discipline of Study (Figure 2)

Programme of study (Table 2)

Level of study within programme (Table 2)

Credit rating (Table 1)

Serial number unique to course

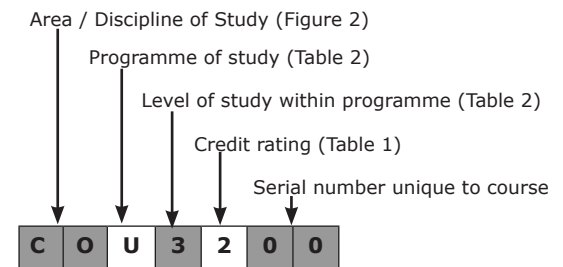| C	O	U	3	2	0	0

Figure 3. An example of a course code

Deciding on the Workload

In an academic year, students of a regular programme of study may register for courses with a total credit value within a minimum of 8 credits and a maximum of 30 credits.

Students may register simultaneously for up to 2 programmes of study, except for Foundation courses, subject to the permitted maximum of 30 credits in total per academic year.

In addition, students may register for continuing education courses up to 8 credits. Students registering for stand alone courses may register for up to 15 credits of courses per academic year.

Students registering for courses with an academic value adding up to 30 credits are reminded that they will have to devote on the average a minimum of 30 hours of study per week for 30 credits in an academic year. Most students, even if they are unemployed, are unable to devote this amount of time. Registering for a workload that is difficult to cope, will adversely affect the academic performance. Therefore, those registering for courses adding up to less than 30 credits may devote a pro rata minimum number of hours of study.

Planning and Allocating Time for Studies

The Faculty of Natural Sciences offers courses according to a semester system. Each academic year is divided into two semesters. Activities for many courses are scheduled to fit one semester. However, activities for a few courses are spread through both semesters. Students are expected to carefully plan the studies paying special attention to the workload and the semester in which

the courses are offered.

At registration, students are provided with the activity schedules relevant to the courses they register for. These indicate the dates and times of activities such as day schools, assessment tests, tutorial classes, workshops and practical classes, that the University has planned for each course. It is the responsibility of the student to draw up a suitable time plan to prepare for these activities.

The students are also advised to pay attention to the medium of instruction of the course. All courses are offered in the English medium only. Thus, it is very important that you pay a keen interest on improving your English knowledge. To prepare the student for this challenge the University offers supportive English courses for which the students are strongly advised to register at the first instance.

Selection of Courses

Subject to the specified prerequisites being fulfilled, a student could simultaneously register for courses at different levels. In the Faculty of Natural Sciences, a student cannot however register for courses in the degree programme (at Levels 3, 4, 5 & 6) simultaneously with courses offered from Foundation Level.

In most of the programmes offered by the Faculty, there are courses, such as English, Mathematics and communicaton skills for which a certain level of competency is required before before starting the academic year. Students should offer such prerequisite courses in the first instance.

Support for Learning

Realising the necessity to give assistance and guidance to students who have entered a new learning environment, the Faculty provides support to the students in a variety of ways.

Personal Tutors

Each student is assigned a personal tutor/counsellor during the pre-registration orientation sessions of the programmes. The Personal Tutor will guide the students and provide greater awareness about the University, the study system and other particulars regarding the programme of study. This facility is available throughout the study period of the student and all students are advised to make best use of this service.

Pre-Academic Courses

The Pre-Academic Courses has been offered before starting the first academic year for students. It consists of four compulsory courses; English for Academic Purposes (EGAP), Empowering for Independent Learning (EfIL), Communication Skills for Computing and Foundational Mathematics course for non-Mathematics students.

EfIL gives an opportunity for the students to become familiar with the practices of OUSL and network among them. The activities during pre-academic are designed to bring out the inner potential of students and motivate them for study.

Motivation and Study Habits courses (PASS)

Over the past years, the Faculty has identified that a large number of students need additional support to study in the distance mode. Motivation and study habits courses are offered with the intention of bridging this gap. In each of these courses there is a series of interactive student help sessions in course material of an associated Level 3 discipline-based course.

Interactive help sessions are conducted approximately every two weeks throughout the 1st and 2nd semesters using peer-assisted learning techniques. These sessions provide an opportunity for the students in developing sound study habits, which are essential to succeed at the OUSL. Also they help sustain the motivation of students throughout the academic year and, more importantly promote life long learning.

Sufficient induction workshops and student help sessions are conducted in most of the Regional Centres in parallel so that all students get a chance to attend them. More information will be made available to you at the orientation session.

Students are strongly advised to follow the PASS sessions attentively.

Day Schools

Day schools are interactive sessions where the student will get the opportunity to meet the respective course teachers to clarify any difficulty they come across in their study material. Attendance at day schools is not compulsory. However, attending a day school well-prepared will immensely help students perform well in the course. Day schools are held at almost online and the students have the option of attending a day school held at a centre of their choice.

Laboratory work/Field work/Projects

Practical work is an integral part of many courses and attendance is compulsory. These sessions are designed to transfer practical skills, experimental methodology, planning, interpretation of data as well as other generic skills. They may take the form of laboratory sessions, mini projects, or industrial/field based experiences.

Laboratory facilities are available at all Regional centres. Several practical groups are conducted for courses with practical components and students can select the group at their choice. Practical guides and tutor support are provided at practical sessions. These sessions reinforce and extend theoretical knowledge, give students hands on experience, and expose them to natural and field situations.

Online Support

In order to give the students additional help and also to familiarise them with modern learning trends and tools, some courses are supplemented with an online component. The online activities could be accessed from home or from the OUSL Computer Centres located at centers specified in Appendix 2 (page 56). Once you register for a course with an online component, you will be further advised on how to access and use it.

MyOUSL

Through the MyOUSL web portal, students may access online moodle courses, personal details, timetables, payment details and submit final examination applications etc. To access MyOUSL, use the link from the OUSL homepage at: **http://www.ou.ac.lk/ OR type: http://my-ousl.ou.ac.lk/**

User name:[Student ID Number]; Password: [National Identity Number]

Student ID number is given on the Personal Information page of the Record Book. (Note this is different from the Registration number).

Library

The OUSL operates a network of libraries comprising the main library at Central Campus and Regional Centre libraries located at other Reginal Centres. In addition, there are small libraries in each of the Study Centres. The main library is open for students from 8.30 am to 6.30 pm every day including week-ends except on Poya days and University holidays. The Regional Centre libraries are open during working hours everyday, except on Sundays and Mondays.

The main library is well-equipped with a substantial collection of books in a wide variety of subjects and many foreign and local journals. The main library also operates a fully equipped Audio Visual Resource Centre (AVRC) with a substantial collection of videos/audios/CDs to supplement print material. The AVRC provides internet facilities for study purposes of students.

In-house photocopying facilities are also available at very nominal rates for the convenience of all library users. The facility of getting inter-library loans of books, journals and video films is also available. The library has copies of past examination papers, which are also available on the University web site. Students are advised to read the library information sheets available at all libraries for more details on the facilities provided and how to make use of them.

Students are also instructed to use the libraries carefully.

Regional Educational Services

The University has a network of Regional Centres/Study Centres distributed throughout Sri Lanka (Figure 1). These centres provide facilities for distribution of course material, limited reference facilities at libraries, counselling, day schools and laboratory classes in the science disciplines and face to face teaching.

Computer facilities through elementary computer laboratories are also provided at the regional and study centres at Colombo, Kandy, Matara, Jaffna, Ambalangoda, Anuradhapura, Bandarawela, Batticaloa, Kegalle, Kurunegala, Polonnaruwa, Badulla and Ratnapura centres. Limited internet facilities are available at Colombo, Kandy and Matara Regional Centres.

Financial Assistance - Scholarships and Bursaries

The OUSL provides a limited number of bursaries administered by the University and Mahapola Scholarships administered under the Mahapola Trust.

Both the Bursaries and Scholarships are offered under two schemes - merit and need. The main criterion for a merit scholarship is the overall student performance at Final Examinations. Guidelines for the Bursaries and Mahapola Scholarships and further information are available with the Assistant Registrar of the Faculty. Application forms will be available at the Re-registration Counters at all Regional Centres or can also be downloaded from www.ou.ac.lk/science. The closing date of applications will be announced in due course.

In addition, University Enhancement Bursaries will be awarded to students who complete the course in the same year of registration.

University Enhancement Bursary

(Effective from Academic Year 2014/2015)

University Enhancement Bursaries are awarded by The Open University of Sri Lanka to motivate the degree level students to complete the courses they have offered in a particular year and complete their degrees at a reasonably shorter period of time. The amount of the scholarship varies based on the number of times the student is successful in meeting the bursary criteria. A student may be awarded a University Enhancement Bursary for a maximum of three times in his/her entire study period. A student who has been awarded either a Mahapola Scholarship or the University Bursary may he/she also be entitled for the University Enhancement Bursary.

Eligibility Criteria for Award of University Enhancement Bursary

a)   A student is eligible for the award of the University Enhancement Bursary if he/she has registered for a minimum of 21 credits of courses in the first year of registration at the OUSL and successfully complete all the credits he/she registered for in the same academic year. However, if a student chooses to register for more than 21 credits of courses, he/she shall be required to complete even the additional credits they have registered for to become eligible for the bursary.

b)   In the subsequent year/ one student shall be required to register for a minimum of 30 credits of courses at the OUSL and successfully complete all the credits he/she registered for in the same academic year. However, if a student chooses to register for more than 30 credits, he/she shall be required to complete even the additional credits they have registered for to become eligible for the bursary.

c)   A student who fulfils the requirements given in (a) or (b) for the first time will be eligible for an award of a bursary equivalent to 10% of the tuition fee in the next academic year.

d)   Similarly a student who fulfils the requirements given in (a) or (b) for the second time will be eligible for an award of a bursary equivalent to 20% of the tuition fee in the next academic year.

e)   Likewise a student who fulfils the requirements given in (a) or (b) for the third time

will be eligible for an award of a bursary equivalent to 30% of the tuition fee in the next academic year.

f) The bursary amounts awarded to the students as per (c), (d) and (e) above, would be set aside from the tuition fee for the next academic year.

Duty Leave for Government School Teachers

School teachers following the BSc (IT) programme are entitled for 20 days of duty leave per year. Please refer to the Circular No 26/2013 issued by the Ministry of Education (www.moe.gov.lk)

Administrative Divisions Providing Support

Student Affairs Division

The Student Affairs Division located in the administrative building of the Nawala Central Campus is responsible for maintaining all personal and academic records of the OUSL students. In case of loss of student record books and change of addresses, students should immediately inform the Student Affairs Division. To drop courses in the permitted drop period or obtain studentship, students should contact the Student Affairs Division.

Students should also contact the Student Affairs Division for other matters pertaining to registration of students, such as changes to the, study centre and civil status. The contact details are: Senior Assistant Registrar (SAR), Student Affairs Division, The Open University of Sri Lanka, P.O. Box 21, Nawala, Nugegoda. Telephone: 011-2823920/011-2881205.

Examinations Division

Any query regarding examinations should be forwarded to the SAR/ Examinations. When applying for examinations, online through MyOUSL you have to submit the duly completed application form to the SAR/Examinations. After processing your applications, the Examinations Division will send you relevant online admission forms for sitting examinations prior to the commencement of the final examinations. Students may also request for results sheets and certificates from the Examinations Division by paying a nominal fee. The contact number of the Examinations Division is 011- 2881203 or 011-2881350.

Finance Division

The Finance Division is the administrative branch dealing with student fees. Any queries related to course fees should be forwarded to the Finance Division. The Colombo Regional Centre has a Shroff Counter that is open from 9.00 a.m to 3.00 p.m on week days with a half an hour break from 12.00 noon to 12.30 p.m. Payments for certificates and results sheets can be made at the Shroff Counter.

Other Forms of Student Support and Welfare

Student Counselling

General counselling on non-academic student matters is available to all students through the Chief Student Counsellor and six Faculty Student Counsellors. All Students are advised to meet the Faculty Student Counsellors in the first instance.

Faculty Student Counsellors:	
Dr. K.O.L.C. Karunanayake Senior Lecturer Dept. of Botany Tele: 2881269	Dr. P.W.H.K.P.Daulagala Senior Lecturer Kandy Regional Centre Telephone: 081 2494495-7
Dr. N. Karthikeyan Senior Lecturer Dept. of Physics Tele: 2881449	Ms. Y.A.S. Samithri Senior Lecturer Matara Regional Centre Tele : 041 2222943
Prof. N.N. Punchihewa Ass.Proffessor Dept. of Zoology Tele: 2881446/488	Ms. K.D.V.F. Siriwardane Senior Lecturer Dept. Mathematics Tele: 2881443
Dr. A.M.P.B. Abeysinghe Senior Lecturer Dept. Computer Science Tele: 2881098	

Temporary Residential Facility (TRF)

The University provides temporary residential facilities for a limited number of students for a limited period at Colombo, Kandy and Matara Regional Centres for attending academic activities. The application form to request for this facility needs to be collected from the Senior Assistant Registrar/Student Affairs or from the Assistant Director of the regional center. The duly completed application form certified by the relevant academic staff member should be submitted and approved prior to using this facility.

Medical Centre

A medical centre is available at the Colombo Regional Centre for the benefit of all staff and students. This centre is located close to the Pre School and is normally open on weekdays except on University holidays and public holidays.

Canteens

Meals and other refreshments can be purchased from the University canteens at reasonable prices. Canteens are available at Nawala both in the Central Campus (near the Administration Block) and the Colombo Regional Centre (next to Block 15). Canteens are also available at the Kandy and Matara Regional Centres. The canteens provide service on all weekdays and weekends except on University holidays.

Facilities for Payment of Vouchers

Payment facilities are available to students at the Shroff Counter in the new CRC Building (adjoining the registration area). You may also make the payments at any Peoples' Bank (the closest branch is at the Nawala Junction).

Book Shop

A small bookshop at Block 9 provides students to purchase stationery and other consumable items at reasonable prices from the book shop.

Photocopying Facilities

Photocopying facilities are available at the library, CRC and Student Union Room at reasonable rates.

Career Guidance Unit

This unit is located in the new CRC building at Nawala and conducts activities to help OUSL students and graduates to enhance their career development skills and to optimize employment opportunities available to them.

Co-curricular Activities

Societies/Associations in the Faculty organize many social, cultural, religious and educational activities/functions where students can take part. Societies such as the Buckyball Society, Bot-Soc, Spectrum, ZooNet and iTeam regularly organize guest lectures and other co-curricular activities, to broaden the knowledge and skills of the students.

Faculty Alumni Association

All students of the Faculty are eligible to become members of the Alumni Association after they graduate. Its objective is to organises activities to promote fellowship among members whilst supporting past and present students and encouraging general interest and well-being of the Faculty/University.

Student Welfare Division

The Student Welfare Division is responsible for coordination and facilitation of activities coming under different units such as student counseling, career guidance, health care, maintenance division and security allowing better networking and efficiency. Some of the specific functions coming under the Student Welfare Division are as follows.

- Selection and approval of students for University, Mahapola and other bursaries
- Review, monitor and evaluate progress of activities carried out by support service units
- Initiate activities to enhance student welfare and cultural renaissance
- Initiate activities to enhance students' social, ethnic cohesion and harmony.
- Create awareness about university student

charter and promote students to comply with norms
- Entertain complaints and grievances from students
- Facilitate the management of temporary residential facility
- Coordinate student counseling services
- Facilitate management of common amenities

The Student Welfare Division of the OUSL is dedicated to foster an environment where all students feel welcome and respected.

Admission and Registration

Students selected for admission to the different programmes of study offered by the Faculty are notified and will be required to register themselves on a specified date. The first time you register for a programme at the OUSL, you are referred to as a **new registrant**. When you register for courses in the subsequent years, you are called a **re-registrant.**

If a student does not renew his/her registration for 5 consecutive years, the registration to the programme will lapse.

Open Days and Orientation Sessions

To help familiarise new and potential students with the OUSL and its programmes, the Faculty organizes open days, orientation sessions for some programmes. Prior to registration, students are also sent a package that contains useful information regarding registration for courses. You are strongly advised to carefully read all the information given in this package.

Registering for Courses

Registration of students for the BSc (IT) degree programme are conducted at all regional centres. Counsellors are available to advise and help students during the registration process.

Studentship Only

A re-registering student can decide not to offer any courses in a given year. However, in this case it is mandatory that you register under the category of studentship only. Studentship should be obtained within 5 months of the end of the registration period. Beyond this, renewal of registration is permitted only during a registration period, with a financial penalty. It is also important to note that if a student does not renew the studentship for five consecutive years, registration to the programme will lapse.

A student who has obtained studentship will be called for registration for the subsequent academic year. He/She will also be able to sit examinations in courses he/she has obtained eligibility, if any, in previous years.

New students cannot register in the "studentship only" category. If they are not offering any courses in their first year, they are required to apply again as new students in the following year.

Making Changes to Registered Courses

Students who registered for the BSc (IT) Degree programme, and wish to change courses are permitted to do so within a specified period known as the 'add/drop period' and the 'drop period'.

Changes during Add/Drop Period

You are permitted to add or drop courses on the dates assigned for this purpose by completing a form that can be collected from the Assistant Registrar of the Faculty. If you drop courses you had registered for, the relevant course fee will be credited to your account. In making changes to registered courses, the total 30 credit maximum or the 8 credit minimum limit per academic year need to be maintained.

When dropping courses during add/drop period, the course material issued to you should be returned to the Book Centre.

Changes during Drop Period

After the add/drop period, you are **not permitted to add courses**. However, during the drop period, which runs beyond the add/drop period, you are permitted to drop courses. In this case, the course fee will not be refunded or carried over to the next academic year. It is very important to note that **students who do not sit for continuous assessments/participate in other compulsory academic activities after the drop period will be considered as repeat students for that course**.

Getting Exemptions for Courses

Students may request for specific exemptions from a course based on relevant qualifications they already possess. Application forms for claiming such exemptions can be collected from the Assistant Registrar of the Faculty. Duly completed application forms together with proof for such qualifications and relevant course descriptions should be forwarded to the Dean of the Faculty. The Faculty Exemption Committee will assess the qualifications and inform the student if exemptions could be granted. It is the responsibility of the student to claim such exemptions granted at a subsequent registration.

It is important to note that the **marks assigned for a course with an exemption is equivalent to that of a minimum pass grade of C and a GPV of 2.00**. An exemption processing fee will be charged for each exemption claimed.

Assessment and Evaluation

Evaluation in the Empowering for indipendent learning (EFIL) courses is based on the attendance for its activities. The final evaluation is reported as pass or fail. What appears below applies to the other courses offered by the faculty.

Continuous Assessments Tests

A student's progress in each course is assessed continuously by means of assignments and/or assessment tests and/or practical tests. The assessment tests could be conventional No Book Tests (NBT) or Open Book Tests (OBT) or online assessments. An Overall continuous Assessment mark termed as **OCAM**, is computed based on marks of assignments/assessment tests/practical tests.

OCAM requirement obtained for a course will be valid for two consecutive academic years including the year in which the OCAM is obtained. After the lapse of this period, you will not have the opportunity to sit the final examination to upgrade RX/C$^-$/D$^+$/D/E grades. If you need to upgrade such grades, you will be required to re-register for the course once again.

For all students from the Academic year 2017/2018 the OCAM requirement obtained for a course will be valid for two consecutive academic years including the year in which the OCAM in obtained.

Final Examinations

The Faculty operates a two semester system for its courses for most programmes. The final examination of each course is held at the end of the relevant semester.

Sitting for Final Examination

Students are strongly advised to take into notice that the **OCAM** requirement for a course can be carried forward only up to a limited period of time from the year of obtaining **OCAM**. **Students are therefore strongly advised not to postpone sitting final examinations unless due to unavoidable reasons**.

Students may postpone sitting final examinations under unavoidable circumstances. Medical or other letters/certificates are not requested from students who postpone examinations in this manner. However, the Faculty has observed over the years that the students who postpone sitting the final examinations do not perform well.

Application to sit for the final examinations through MyOUSL

Each semester, students are required to inform the SAR/Examination about the courses they intend to sit final examinations by submitting the duly completed application form for final examinations. Online application is a must to enable the student to print their admission card without which student may be denied admission into exam hall. student are expected to apply before the deadline.

Repeat Students

Any student failing to obtain a valid OCAM for final examination for any particular course will have to re-register for that course in a subsequent year by re-paying the tuition fee. Such a student will be considered as a repeat student for that course. **Repeat students will not be eligible for a grade higher than a minimum pass grade of C and a GPV of 2.00 for the repeat course.**

Students are strongly advised not to register for too many courses which they cannot cope up with and thereby run the risk of becoming repeat students in a subsequent year. Please refer following link for more details http://ou.ac.lk/nsc/programme/bsc/

Resit Candidates

Students who have valid OCAM but fail to obtain at least a minimum pass mark at the final examination will be considered as resit candidates. Resit candidates need not re-register for that particular course at the subsequent registration,

provided the student is writing the examination before the end of the valid period of OCAM. However, like repeat students, **resit students are not given a grade higher than a minimum pass grade of C at the subsequent attempts of the final examination.** Resit candidates are not required to repay any course fee.

Finance

Fee structure

The fees indicated below are applicable to any student registering for a programme in the Faculty of Natural Sciences.

Registration Fee:	Rs. 500.00
Sports Club Fee:	Rs. 25.00
Facilities Fees:	Rs. 1500.00
Library facilities Fee:	Rs. 100.00
Refundable Lab deposit	Rs. 1100.00
Tuition Fee	Rs. 3000.00 per credit
Pre-acedemic courses	Rs. 8500.00

Vouchers for Payment of Fees

Fees are payable in two instalments. Each student will initially receive a voucher for the first instalment that includes 60% of the Tuition fees. After payment, the University copy of the voucher should be handed over at registration/ re-registration. The voucher for the second instalment that corresponds to the balance of the fees payable after making adjustments for the fees already paid will be sent to you about four months after the registration. After you make this payment, the university copy should be forwarded

to the SAR/ Student Affairs without delay. You will need to pay the voucher for the second installment to receive the second semester course material.

The student copies of the vouchers are for your records. Students should not make any changes to the printed vouchers. Contact the Bursar (011-2881208), if you have any queries.

Principal Officers of the Faculty of Natural Sciences

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Dean/Faculty of Natural Sciences

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Head/Computer Science

Dr. H.O.W. Peiris
Head/Mathematics

Dr. D.V.D. Hemalika
Faculty Coordinator/MRC

Dr. N.U.S. Yapa
Faculty Coordinator/KRC

Dr. K. G. Jayalath
Faculty Coordinator/ARC

Mr. P.J. Jude
Faculty Coordinator/JRC

Ms. N.Swarnalatha
Assistant Registrar

Department of Computer Science

We are happy to announce the establishment of the Department of Computer Science as the sixth department of the faculty of Natural Sciences, to contribute the B.Sc degree programme by offering computer Science as the seventh discipline. Our department is located in the third floor of the Science and Technology building, of the Colombo Regional Center.

We have 20 years of experience in offering Computer Science discipline under the Department of Computer Science. It is open for any student who satisfies the qualification to enter the B.Sc. Degree Programme, regardless of whether they have offered courses from the Bio Science or the Physical Science streams of the Advanced/Foundation level. The aim of the courses offered to the B.Sc degree programme is to develop competent personnel who are capable of assuming positions in the fields of Computer Science and Information Technology. In addition, we offer certificate programmes, tailor made training programmes and short courses in computer application and networking, manly to cater the user requirements.

To enhance the practical knowledge in Computer Science the department has a modern well equipped computer science laboratory and a digital computer laboratory in the Colombo Regional Center. A computer science laboratory is also located at the Kandy Regional Center.

With the Department of Computer Science you will have the opportunity to enhance your knowledge, skills towards to Computer Science and Information Technology with the passion of life-long learning.

www.ou.ac.lk/science/Computer Science
Department of Computer Science
Science & Technology Building
Phone: 011-2881095/097

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Department of Mathematics

Mathematics is said to be the queen of sciences. as well as the language of sciences. The necessity of Mathematics in science is emerging. Mathematics is all around us, in everything we do in our daily lives, including use of mobile devices, architecture, art, money, engineering and even sports. Mathematics provides logical thinking and analytical skills which are indeed needed to solve the real life problems.

The Department of Mathematics welcomes students who wish to follow undergraduate courses in the areas of Pure Mathematics, Applied Mathematics and Statistics. The Department guides students to become independent learners that enables them to pursue lifelong learning as per the mission of the University. Our course materials are well written in self-learner friendly manner and are designed in such a way that they will widen the horizons in the fields of Pure Mathematics, Applied Mathematics and Statistics.

Currently Special degrees are also offered by the Department in the disciplines of Mathematics and Applied Mathematics for the students who perform well in Level 3 and Level 4.

In addition, the Department offers stand-alone courses in the areas of Applied Mathematics, Pure Mathematics and statistics to cater to those who wish to enhance knowledge in the areas of their choice without registering for a regular degree programme. Also Department renders services by providing statistical assistance to the Faculty. Further, it engages in interdisciplinary activities such as offering Mathematics and Statistics courses to other Faculties at the OUSL.

Research opportunities are also available in the areas of Mathematics and statistics leading to higher degrees.

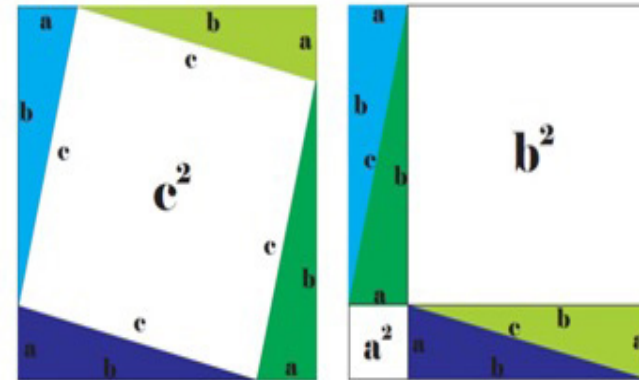Further information is available at:
www.ou.ac.lk/science/maths

Department of Mathematics

Science & Technology Building
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Fax: 011-2806577, Attn.Maths

$$c^2 = a^2 + b^2$$

Ramanujan's Number

$$10^3 + 9^3 = 1729 = 12^3 + 1^3$$

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BSc in Information Technology Degree Programme (BSc (IT))

Aims and Objectives

The graduates of the Bachelor of Science in Information Technology degree will have a comprehensive knowledge base and skills in the field of Information Technology (IT), and will be able to:

- Know about principles and concepts in the field of IT.
- Demonstrate skills in finding solutions, solving problems, achieving goals efficiently.
- Communicate effectively with specialists and wide society.
- Apply technological fluency and up-to-date knowledge on organizational IT operations and produce cost effective solutions.
- Become a leader and a team player.
- Practice ethics and laws of IT industry.
- Improve qualities and skills necessary for employment rapidly with changes by further leaning.
- Become an independent self-directed life-long learner and a professional in IT.
- Grow into a responsible citizen with sensitivity to the wellbeing of the society.

Academic Admission requirements

a. a minimum of three (03) pass grades in any number of sittings of the General Certificate of Education (Advanced Level) Examination, Sri Lanka, OR,

b. Certificate in Foundation programme in Social Science/Advanced Certificate in Social Science offered by the Open University of Sri Lanka, OR,

c. a minimum of three (03) pass grades of any of three (03) subjects offered from among the Foundation programme in Science/Advanced Certificate in Science offered by the Open University of Sri Lanka, OR,

d. a minimum of three (03) pass grades obtained from the combination of Sections a. & c. above, OR,

e. an equivalent or higher qualification acceptable to the Senate

Duration

Requires a minimum period of three academic years to complete the programme.

Programme Learning Outcomes

Upon successful completion of the BSc (IT) Degree programme, a graduate is expected to have:

- **Theoretical Knowledge:** Accumulate the fundamental knowledge in Information Technology for analysing of problems, designing solutions.
- **Practical Knowledge and Application:** Make thorough judgments in accordance with basic theories and concepts and apply on Information Technology based solutions.
- **Communication:** Communicate technical information, ideas, and concepts effectively and efficiently.
- **Teamwork and Leadership:** Practice leadership and teamwork responsibilities in the professional and working environments.
- **Creativity and Problem Solving:** Identify problems and develop solutions based on the information available using the concepts and theories.
- **Managerial and Entrepreneurship:** Demonstrate personal responsibility and accountability while taking initiatives.
- **Information Usage and Management:** Use Information Technology skills and knowledge to utilize and manage information.
- **Networking and Social Skills:** Develop skills to perform in a team as a member and a leader.
- **Adaptability and Flexibility:** Develop appropriate strategies to adapt into changes and flexibility for frequent technical modifications.
- **Attitudes, Values and Professionalism:** Exhibit positive attitudes and professionalism with judgments based on legal and ethical principles in Information Technology.
- **Vision for Life:** Identify personal dreams and long-term goals to achieve by acquiring relevant competencies.
- **Updating Self:** Carry out further training to develop extra skills with independent learning focusing for lifelong learning.

Programme Structure

The BSc (IT) programme offers courses at Levels (L) 3, 4 and 5/6, equivalent to the 1st, 2nd, and 3rd/4th years of the BSc (IT) Degree Programme of a conventional University.

Medium of Instruction

Instruction, at all Levels 3, 4, 5 and 6 are available only in the English medium.

Workload

For the BSc (IT) Degree, a student requires to take compulsory and optional courses add- ing up to a total of 90 credits. Those without ex- empting qualifications are also require to reg- ister for English, Mathematics, Communication skills, and EfIL. A student can register only for a maximum total of 30 credits of regular (com- pulsory and optional) courses per academic year.

Award of the BSc (IT) Degree

The BSc (IT) degree is conferred according to the OUSL Rules and Regulations. Those who wish to be considered for the award of the de- gree need to apply through online before the stipulated deadline using the prescribed appli- cation form.

BSc (IT) Degree Programme

The BSc (IT) Degree programme is of 90 credits and offers a combination of regular courses and continuing education courses at Levels (L) 3, 4 and 5

Level 3 - Register within the maximum of 30 credits

Level 3 courses

Course Code	Credit	Course title	(Compulsory/ Optional)	pre-requisites
Requirement: Thirty (30) Course Credits at the Level 3.				
COU3300	3	Computer Organization and Communication	Compulsory	
COU3301	3	Database Management Systems	Compulsory	
COU3202	2	System Analysis and Design	Compulsory	
ADU3330	3	Discrete Mathematics I	Compulsory	ADE3430 (CR/EL/P/Ex)
COU3304	3	Fundamentals of Programming	Compulsory	
COU3303	3	Software Engineering	Compulsory	COU3202 (CR/EL/P/Ex)
ITU3201	2	Web Development	Compulsory	
COU3305	3	Computer Security Concepts	Compulsory	
ISU3300	3	Fundamentals of Information Systems	Compulsory	
COU3306	3	Data Structures and Algorithms	Compulsory	COU3304 (CR/EL/P/Ex)
ISU3201	2	IT Organization	Compulsory	

CONTINUING EDUCATION COURSES (Non-GPA Courses)

Course Code	Credit	Course title	(Compulsory/ Optional)	pre-requisites
Requirement: Obtaining a Pass grade or Exemption for each of the courses LTE3401/LTE3413, FDE3022, COE3200 and ADE3430 is required for the award of the degree.				
LTE3413	4	English for General Academic Purposes (EGAP)	compulsory	None
FDE3022	0	Empowering for Independent Learning (EFIL)	compulsory	-
ADE3430	4	Foundational Mathematics*	compulsory	GCE O/L - Mathematics (Pass)
COE3200	0	Communication Skills for Computing	compulsory	-
* bridging course for non-mathematics students				

Level 4 – Register within the maximum of 30 credits

Pre-requisite to register for courses at Level 4

CR/ EL/P/ Ex for thirty (30) course credits at Level 3 regular courses, specified as the requirement at Level 3 AND in addition, CR/ EL/ P/ Ex for all Continuing Education Courses at Level 3.

Level 4 courses

Course Code	Credit	Course title	Compulsory/ Optional	pre-requisites
Requirement: Thirty (30) Course Credits at the Level 4.				
COU4300	3	Object Oriented Programming	Compulsory	
COU4201	2	Knowledge Representation and Logic Programming	Compulsory	
COU4302	3	Operating Systems	Compulsory	
ISU4200	2	Professional Practices and Ethics	Compulsory	
ADU4230	2	Discrete Mathematics II	Compulsory	
COU4304	3	Computer Architecture	Compulsory	
COU4303	3	Artificial Intelligence	Compulsory	COU4201(CR/EL)
COU4305	3	Computer Networks	Compulsory	COU4302 (CR/EL)
COU4306	3	Cryptography	Compulsory	
ITU4200	2	Software Validation and Assurance	Compulsory	
ADU4231	2	Probability and Statistics	Compulsory	
ITU4202	2	User Experience Design	Compulsory	

Level 5 – Register within the maximum of 30 credits

Pre-requisite to register for courses at Level 5:

CR/ EL/P/ Ex for thirty (30) course credits each at Levels 3 & 4 regular courses, specified as the requirements at the respective Levels AND in addition, P/Ex for all Continuing Education Courses at Level 3.

Level 5 courses

Course Code	Credit	Course title	Compulsory/ Optional	pre-requisites
Requirement: Thirty (30) Course Credits at the Levels 5.				
ADU5330	3	Inferential Techniques and Statistical Modeling	Compulsory	
Total number of Compulsory Credits				
ITU5300	3	Human Computer Interaction	Optional	
ITU5301	3	Software Quality Assurance	Optional	
ITU5302	3	Data Scalability and Analytics	Optional	
ITU5303	3	Multimedia Design & Technology	Optional	
ITU5305	3	Enterprise Application Development	Optional	
COU5300	3	Artificial Neural Networks	Optional	
ISU5300	3	Management Information Systems	Optional	
ITU5304	3	Wireless and Cellular Networks	Optional	
ITU5308	3	Web Technologies	Optional	
ISU5301	3	Industry Sustainability and Law	Optional	
ITU5307	3	Cybersecurity	Optional	
COU5301	3	Cloud Computing	Optional	
ITU5306	3	Internet of Things	Optional	
ITU5309	3	Virtual Systems and Services	Optional	

CONTINUING EDUCATION COURSES (Non-GPA Courses)

Course Code	Credit	Course title	(Compulsory/ Optional)	pre-requisites
Requirement: Obtaining a Pass grade or Exemption for each of the courses ITE5120 and ITE5621/ITE5622, is required for the award of the degree.				
ITE5120	05	Industry Readiness	Compulsory	
ITE5621	05	Industrial Training	Either one of the courses is core	
ITE5622	05	Industrial Application Development Project		

Evaluation

For all the courses evaluation procedure involves both continuous assessments and final examinations. Overall Continues Assesment Mark (OCAM) to be considered for the final examination of a course; a student should score a minimum of 35% for its continuous assessments, which will be valid for two years.

i)   **Overall Mark :** For each course the overall mark, "Z%" will be computed by a combination of the Continuous Assessment Mark (CAM), "X%" and the Final Examination Mark (FEM), "Y%" as follows.

$$\text{If } Y \geq 40, \text{ then } Z = 0.4\,X + 0.6\,Y$$
$$\text{If } 30 \leq Y < 40, \text{ then } Z = 0.4\,X + 0.6\,Y, \text{ subject to a maximum of 40.}$$
$$\text{If } Y < 30, \text{then } Z = Y$$

The overall assessment mark (Z%) of any course offered by the Faculty of Humanities & Social Sciences, as follows :

$$\text{If } Y \geq 40, \text{ then } Z = 0.4\,X + 0.6\,Y$$
$$\text{If } 30 \leq Y < 40, \text{ then } Z = 0.4\,X + 0.6\,Y, \text{ subject to a maximum of 40.}$$
$$\text{If } Y < 30, \text{then } Z = Y$$

ii)   **Overall Grade and Grade Point Value:** For each course, an overall Grade and a Grade Point Value will be awarded based on Z% as shown below.

Range of marks	85-100	70-84	65-69	60-64	55-59	50-54	45-49	40-44	35-39	30-34	20-29	0-19
Overall Grade	A^+	A	A^-	B^+	B	B^-	C^+	C	C^-	D^+	D	E
Grade Point Value	4.00	4.00	3.70	3.30	3.00	2.70	2.30	2.00	1.70	1.30	1.00	0.00

A^+, A, A^-, B^+, B, B^+, C^+, and C are Pass grades. Not eligible students will be assigned a F Grade and Absentees for a final examination will be assigned a RX Grade

i)   **Grade Point Average (GPA):** GPA is the credit-weighted arithmetic mean of the Grade Point Values obtained by a student for the total of 90 credits. GPA will be calculated to the second decimal point, subject to a maximum of 4.00, as shown in the example below. GPA will determine the Passes and Classes of the BSc degree.

Example: Calculation of the GPA for a student with the following Grades

Overall Grade	No of credits	Credit weighted Grade Point Value
A^+	6	6 x 4.00 = 24.00
A	15	15 x 4.00 = 60.00
B	20	20 x 3.00 = 60.00
C	43	43 x 2.00 = 86.00
D	6	6 x 1.00 = 6.00
Total	90	236.00

$$GPA = \sum_i c_i\, g_i \; / \; \sum_i c_i$$

c_i: Credit rating of the ith course
g_i: GP value obtained for i^{th} course

GPA = 236.00/90 = 2.62

BSc (IT) Degree Award Criteria (90 credits)

The BSc (IT) degree will be awarded in accordance with the provisions of the OUSL Regulation no. 20 NS(3) of 2023. An extract of the award criteria is given below. Those who wish to be considered for the award of the degree, should apply on the prescribed form to the SAR/Examinations Division, before the date stipulated by the Faculty.

Pass	1. obtained a minimum of C grades for thirty (30) course credits at the Level 3 , 2. obtained a minimum of C grades for twenty-seven (27) course credits and minimum of D grade for the remaining three (3) credits at the Level 4 , 3. obtained a minimum of C grades for twenty-four (24) course credits of compulsory/optional courses AND minimum of D grades for the remaining six (6) credits of compulsory/optional courses at the Level 5, 4. D/D+/C- grades obtained in consideration of 2. and 3. above, 5. obtained a minimum GPA of 2.00 in course credits adding up to ninety (90) credits at Levels 3, 4, and 5 as considered in above 1.,2., 3. and 4., 6. obtained at least a Pass grade/Exemption for each of the Continuing Education Courses.
To be awarded a First or Second Class a student needs to fulfil the Pass criteria specified above with criteria specified below:	
Second Class (Lower Division)	• Obtained a Pass, • Obtained a minimum GPA of 3.00 in credits adding up to ninety (90) credits at Levels 3, 4, and 5 as considered in above 1.,2., 3. and 4., • Obtained a minimum of B grades for forty-five (45) course credits at Levels 3,4 and 5.
Second Class (Upper Division)	• Obtained a Pass, • Obtained a minimum GPA of 3.30 in credits adding up to ninety (90) credits at Levels 3, 4, and 5 as considered in above 1.,2., 3. and 4., • Obtained a minimum of B+ grades for forty-five (45) course credits at Levels 3,4 and 5.
First Class	• Obtained a Pass, • Obtained a minimum GPA of 3.70 in credits adding up to ninety (90) credits at Levels 3, 4, and 5 as considered in above 1.,2., 3. and 4., • Obtained a minimum of A grades for forty-five (45) course credits at Levels 3,4 and 5, • Obtained a minimum of C grades for ninety (90) course credits at the Levels 3,4 and 5.

Note: the awarding criteria may be changed once the Regulations are updated time to time.

BSc Degree Programme - Course Fees

The Registration fee and other fees relevant for 2023/2024, are given below.

Registration Fee   -   Rs.   500.00

Facilities Fee   -   Rs.   2500.00

Refundable Lab Deposit   -   Rs.   1100.00

Library Facilities Fee   -   Rs.   100.00

Tuition Fees   -   Rs.   3000.00 per credit

Tuition & Practical fees payable are given in the Tables below. Foreign students will be charged four (4) times tuition fees of local students.

Table 8 Tuition Fees

Credit rating	3	9	18	24	30
Fees	Rs.9000.00	Rs.27,000.00	Rs. 54,000.00	Rs. 72,000.00	Rs. 90,000.00

Table 9 Practical Fees - to be paid only by those students offering the relevant courses.

Course	Fee	Course	Fee	Course	Fee
COE3200	Rs.700.00	COU4303	Rs.700.00	ITU5305	Rs.700.00
COU3300	Rs.700.00	COU4305	Rs.700.00	ITU5304	Rs.700.00
COU3301	Rs.700.00	COU4306	Rs.700.00	ITU5308	Rs.700.00
COU3202	Rs.700.00	ITU4200	Rs.700.00	COU5301	Rs.700.00
COU3304	Rs.700.00	ADU4231	Rs.700.00	COU6304	Rs.700.00
ITU3201	Rs.700.00	ITU4202	Rs.700.00	ITU6302	Rs.700.00
COU3306	Rs.700.00	ADU5330	Rs.700.00	COU6308	Rs.700.00
ISU3201	Rs.700.00	ITU5303	Rs.700.00	COU6306	Rs.700.00
COU4300	Rs.700.00	ITU5307	Rs.700.00	COU6307	Rs.700.00
COU4201	Rs.700.00	ITU5306	Rs.700.00		
ADU4230	Rs.700.00	ITU5309	Rs.700.00		
COU4304	Rs.700.00	COU5300	Rs.700.00		
COU4303	Rs.700.00	ITU5302	Rs.700.00		

BScHons (IT) Degree Programme

The BScHons (IT) Degree programme is of 120 credits and offers a combination of regular courses and continuing education courses at Levels (L) 3, 4 ,5 and 6

Level 3 courses

Course Code	Credit	Course title	(Compulsory/ Optional)	pre-requisites
Requirement: Thirty (30) Course Credits at the Level 3.				
COU3300	3	Computer Organization and Communication	Compulsory	
COU3301	3	Database Management Systems	Compulsory	
COU3202	2	System Analysis and Design	Compulsory	
ADU3330	3	Discrete Mathematics I	Compulsory	ADE3430 (CR/EL/P/Ex)
COU3304	3	Fundamentals of Programming	Compulsory	
COU3303	3	Software Engineering	Compulsory	COU3202 (CR/EL/P/Ex)
ITU3201	2	Web Development	Compulsory	
COU3305	3	Computer Security Concepts	Compulsory	
ISU3300	3	Fundamentals of Information Systems	Compulsory	
COU3306	3	Data Structures and Algorithms	Compulsory	COU3304 (CR/EL/P/Ex)
ISU3201	2	IT Organization	Compulsory	

CONTINUING EDUCATION COURSES (Non-GPA Courses)

Course Code	Credit	Course title	(Compulsory/ Optional)	pre-requisites
Requirement: Obtaining a Pass grade or Exemption for each of the courses LTE3401/LTE3413, FDE3022, COE3200 and ADE3430 is required for the award of the degree.				
LTE3401/ LTE3413	4	English for General Academic Purposes (EGAP)	compulsory	None
FDE3022	0	Empowering for Independent Learning (EFIL)	compulsory	-
ADE3430	4	Foundational Mathematics*	compulsory	GCE O/L - Mathematics (Pass)
COE3200	0	Communication Skills for Computing	compulsory	-
* bridging course for non-mathematics students				

Level 4 – Register within the maximum of 30 credits

Pre-requisite to register for courses at Level 4

CR/EL/P/Ex for thirty (30) course credits at Level 3 regular courses, specified as the requirement at Level 3 AND in addition, CR/EL/P/Ex for all continuing education courses at Level 3.

Level 4 courses

Course Code	Credit	Course title	Compulsory/Optional	pre-requisites
Requirement: Thirty (30) Course Credits at the Level 4.				
COU4300	3	Object Oriented Programming	Compulsory	
COU4201	2	Knowledge Representation and Logic Programming	Compulsory	
COU4302	3	Operating Systems	Compulsory	
ISU4200	2	Professional Practices and Ethics	Compulsory	
ADU4230	2	Discrete Mathematics II	Compulsory	
COU4304	3	Computer Architecture	Compulsory	
COU4303	3	Artificial Intelligence	Compulsory	COU4201(CR/EL)
COU4305	3	Computer Networks	Compulsory	COU4302 (CR/EL)
COU4306	3	Cryptography	Compulsory	
ITU4200	2	Software Validation and Assurance	Compulsory	
ADU4231	2	Probability and Statistics	Compulsory	
ITU4202	2	User Experience Design	Compulsory	

Level 5 – Register within the maximum of 30 credits

Pre-requisite to register for courses at Level 5:

CR/ EL/P/ Ex for thirty (30) course credits each at Levels 3 & 4 regular courses, specified as the requirements at the respective Levels AND in addition, P/Ex for all Continuing Education Courses at Level 3.

Level 5 courses

Course Code	Credit	Course title	Compulsory/ Optional	pre-requisites
Requirement: Thirty (30) Course Credits at the Levels 5.				
ITU5300	3	Human Computer Interaction	Compulsory	
ADU5330	3	Inferential Techniques and Statistical Modeling	Compulsory	
ITU5303	3	Multimedia Design and Technology	Compulsory	
ISU5301	3	Industry Sustainability and Law	Compulsory	
ITU5307	3	Cybersecurity	Compulsory	
ITU5306	3	Internet of Things	Compulsory	
ITU5309	3	Virtual Systems and Services	Compulsory	
COU5300	3	Artificial Neural Networks	Optional	
ITU5301	3	Software Quality Assurance	Optional	
ISU5300	3	Management Information Systems	Optional	
ITU5302	3	Data Scalability and Analytics	Optional	
ITU5305	3	Enterprise Application Development	Optional	
ITU5304	3	Wireless and Cellular Networks	Optional	
ITU5308	3	Web Technologies	Optional	
COU5301	3	Cloud Computing	Optional	

CONTINUING EDUCATION COURSES (Non-GPA Courses)

Course Code	Credit	Course title	(Compulsory/ Optional)	pre-requisites
Requirement: Obtaining a P/Ex for each of the courses ITE5120 and ITE5621/ITE5622, is required for the award of the degree.				
ITE5120	1	Industry Readiness	Compulsory	
ITE5621	6	Industrial Training	Either one of the courses is Compulsory	
ITE5622	6	Industrial Application Development Project		

Level 6 – Register within the maximum of 30 credits

Pre-requisite to register for courses at Level 6:

P/Ex for thirty (30) course credits each at Levels 3 and 4 regular courses, specified as the requirements at the respective Levels AND in addition, P/Ex for all Continuing Education at Level 3.

CR/EL/P/Ex for thirty (30) course credits each at Level 5 regular courses AND CR/EL/P/Ex for all Continuing Education Courses at Level 5.

Level 6 courses

Course Code	Credit	Course title	(Compulsory/ Optional)	pre-requisites
Requirement: Thirty (30) Course Credits at the Level 6.				
ITU6621	6	Research Project	Compulsory	
COU6303	3	Advanced Database Management Systems	Optional	
COU6304	3	Advanced Data Structures and Algorithms	Optional	
ITU6302	3	Distributed Systems	Optional	
ISU6300	3	IT Risk Management	Optional	
COU6308	3	Machine Learning	Optional	
COU6309	3	Information Security	Optional	
COU6306	3	Data Mining	Optional	
COU6307	3	Digital Forensics	Optional	
ISU6302	3	Social Media & Global Computing	Optional	
ISU6305	3	IT Project Management	Optional	

Evaluation

Evaluation procedure involves both continuous assessments and final examinations. To be eligible to sit the final examination of a course, a student should score a minimum of 35% for its continuous assessments, which will be valid for two years.

i)   **Overall Mark :** For the courses offered by the Faculty of Natural Sciences, overall mark, "Z%" will be computed by a combination of the Continuous Assessment Mark (CAM), "X%" and the Final Examination Mark (FEM), "Y%" as follows.

If $Y \geq 40$, then $Z = 0.4 X + 0.6 Y$
If $30 \leq Y < 40$, then $Z = 0.4 X + 0.6 Y$, subject to a maximum of 40.
If $Y < 30$, then $Z = Y$

The overall assessment mark (Z%) of any course offered by the Faculty of Humanities & Social Sciences, as follows :

If $Y \geq 40$, then $Z = 0.4 X + 0.6 Y$
If $30 \leq Y < 40$, then $Z = 0.4 X + 0.6 Y$, subject to a maximum of 40.
If $Y < 30$, then $Z = Y$

ii)   **Overall Grade and Grade Point Value:** For each course, an overall Grade and a Grade Point Value will be awarded based on Z% as shown below.

Range of Marks	85-100	70-84	65-69	60-64	55-59	50-54	45-49	40-44	35-39	30-34	20-29	0-19
Overall Grade	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	E
Grade Point Value	4.00	4.00	3.70	3.30	3.00	2.70	2.30	2.00	1.70	1.30	1.00	0.00

A^+, A, A^-, B^+, B, B^+, C^+, and C are Pass grades. Not eligible students will be assigned a F Grade and Absentees for a final examination will be assigned a RX Grade
Range of marks
Grade Point Average (GPA): GPA is the credit-weighted arithmetic mean of the Grade Point Values obtained by a student for the total of 120 credits. GPA will be calculated to the second decimal point, subject to a maximum of 4.00, as shown in below. GPA will determine the Passes and Classes of the BSc degree.

$$GPA = \sum_{i=1}^{n} c_i \, g_i \, l_i \, / \, \sum_{i=1}^{n} c_i \, l_i$$

where c_i is the credit rating of the ith course, g_i is the GP value the student has obtained for the ith course , l_i is 2 if the ith course is in either Level 3 or 4, and l_i is 3 if the ith course is in either Level 5 or 6.

BScHons (IT) Degree Award Criteria (120 credits)

For the award of the Bachelor of Science Honours in Information Technology, a student may be required to complete 120 credits within 06 academic years from his/her initial registration to the BSc (IT) Degree Programme. Those who do not complete within the stipulated period, may opt for the Bachelor of Science in Information Technology, on completing 90 credits and satisfy the requirements for the award.

The BScHons (IT) Degree will be awarded in accordance with the provisions of the OUSL Regulation and no 21.NS(07) of 2023

Pass	1. obtained a minimum of C grades for thirty (30) course credits at the Level 3, 2. obtained a minimum of C grades for thirty (30) course credits at the Level 4, 3. obtained a minimum of C grade for thirty (30) course credits of Compulsory/optional courses at the Level 5, 4. obtained a minimum of C grade for thirty (30) course credits of Compulsory/optional courses at the Level 6, 5. obtained a minimum GPA of 2.00 in course credits adding up to one hundred and twenty (120) course credits at Levels 3, 4, 5 and 6, as considered in 1.,2.,3. and 4., 6. obtained at least a Pass grade or Exemption for each of the Continuing Education Courses.
To be awarded a First or Second Class student needs to fulfill the Pass criteria specified above with criteria specified below:	
Second Class (Lower Division) Honours	• obtained a Pass, • obtained a minimum GPA of 3.00 in course credits adding up to one hundred and twenty (120) course credits at Levels 3, 4, 5 and 6, as considered in 1,2,3 and 4., • obtained a minimum of B grades for sixty (60) course credits at Levels 3, 4, 5 and 6.
Second Class (Upper Division) Honours	• obtained a Pass, • obtained a minimum GPA of 3.30 in course credits adding up to one hundred and twenty (120) course credits at Levels 3, 4, 5 and 6 as considered in 1.,2.,3. and 4., • obtained a minimum of B+ grades for sixty (60) course credits at Levels 3, 4, 5 and 6.
First Class Honours	• obtained a Pass, • obtained a minimum GPA of 3.70 in course credits adding up to one hundred and twenty (120) course credits at Levels 3, 4, 5 and 6, as considered in 1.,2.,3. and 4., • obtained a minimum of A grades for sixty (60) course credits at Levels 3, 4, 5 and 6.

Higher Diploma in Information Technology [HDip (IT)]

Students who originally registered for the BSc (IT) or BScHons (IT) Degree Programme may exit the programme and opt for a Higher Diploma in Infromation Technology after the acquisition of 60 credits by applying on the prescribed form to SAR/Examinations, before the stipulated date.

Award Criteria

i) **For students admitted to the BSc programme NS Structure:** The Diploma in Science will be awarded in accordance with OUSL Regulation no.19 NS(3) of 2023. An extract of the award criteria is given below.

Pass	• obtained a minimum GPA of 2.00 in course credits adding up to 60 course credits of regular courses at the Levels 3.
	• obtained a minimum of C grades for twenty-four (24) course credits AND a minimum of D grades for the remaining six (06) course credits at the Level 3.
	• obtained a minimum of C grades for twenty-four (24) course credits at level 4 and a minimum of D grades for the remaining six (06) course credits at the Level 4.
	• obtained at least a Pass grade/Exemption for each of the Continuing Education Courses in Level 3.

Merit Pass	• Obtained a Pass
	• obtained a minimum GPA of 3.00 in course credits adding up to 60 course credits at Levels 3 and above.

Re-admission to the BSc (IT) programme: Diplomates may seek re-admission to the BSc (IT) Degree programme with exemptions/credit transfers and shall be required to register for courses to fulfil the requirements for the award of the Degree as specified in the Regulation no. 20 NS(3) of 2023

COURSE DETAILS

Computer Science

LTE3401/LTE3413-English for General Academic Purposes (EGAP)

Reading, Using visual layout and complex punctuation of a text to comprehend a text, Identifying and understanding the main idea in a text, Identifying supporting details, Deducing meaning of unfamiliar vocabulary using contextual, structural and morphological clues, Critical reading skills, Writing, Taking down notes while listening to a lecture/presentation, Writing a description of a person, place or an object, Description of a process, Description of a graph, Writing a letter , Writing an essay (problem-solution, compare-contrast, cause-effect etc.), Listening for specific information, Listening and following directions, instructions, Listening to a description of a process, Identifying and understanding key ideas in a long academic text (e.g. a lecture), Listening to a presentation and understanding key points, Listening to multiple speakers and understanding each one's stance, Asking for and giving information, Asking for and giving directions, instructions , Expressing opinion, agreeing, disagreeing, Making a short presentation, Giving a short speech on a given topic.

FDE3022-Empowering for Independent Learning (EFIL)

Aim, Learning outcomes and other requirements of the course - Some questions ask from yourself, Fifteen tips to be a smarter OUSL learner, Being aware of the OUSL Assessment and Evaluation system, Supportive facilities at OUSL for learning.

ADE3430-Foundational Mathematics

Review of Basic Algebra – Expansion, factorization, Simplifications, solving equations, Sets and Relations, Matrix Algebra, Functions, Logarithms Differentiation – Limits, Derivatives, Critical Points, Integration and its Applications – Definite and Indefinite Integrals, Introduction to Statistics and Probability, Coordinate Geometry and Trigonometry – Euclidean Geometry, Trigonometric Functions, complex numbers vectors

COE3200-Communication Skills for Computing

Introduction, Communication skills in general, Communication skills for Computer Science, Data Communication (Datacom), What are documents & Spreadsheets, Digital Devices, Usage of Digital devices: Digital devices allow people to communicate at any time or place, Internet, Digital Tools, Digital Tools in Education, Todays' Digital Tools, Use of Technology in Education for Teaching and Learning, Learning Management System. (LMS), Digitally Based Assignments, Online Tests4

ITE4120-Industry Readiness

Industry requirements, Carrier pathways, who you want to be – what is the best path, New trends in the industry, Interview and presenting yourself, how to get a job and grow, how to become a successful IT professional, Achieving Goals

ITE5621-Industrial Training

Students will gain knowledge by working in the industry. Therefore, no contents to teach. Learn-

ITE5622-Industrial Application Development Project

Identify an industrial relevant theme, develop a project concept, Study the project and proposal, Development of the product, Launching the product, Evaluating the project.

COU3300-Computer Organization and Communication

Trends in computers over the time, Components of a computer, Computer abstractions and technology, Computation, Arithmetic for computers, Simple logic gates, logical expressions, Boolean logic simplification
Basic building blocks and components of a computer (gates, flip-flops, registers, interconnections), Combinational Logic, Sequential Logic, Registers, Memories, Datapath + Control + Memory, Hardware as a computational paradigm: Fundamental logic building blocks; Logic expressions, Minimization, sum of product forms, Application-level sequential processing: single thread, Simple application-level parallel processing: request level (web services/client-server/distributed), single, Thread per server, multiple threads with multiple servers, Basic concept of pipelining, overlapped processing stages, Basic concept of scaling: going faster vs. handling larger problems, Digital vs. Analog/Discrete vs. Continuous Systems, Clocks, State, Sequencing, Computers and Network Protocols as examples of state machines, Instruction sets and software systems, Introducing logic level implementation of a simple processor, MIPS CPU and control unit organization, Discussion of how computer systems interact with memory and I/O devices, Exploiting memory hierarchy, Multicores, multiprocessors and clusters

COU3301-Database Management Systems

Introduction to Databases, History of Databases, Introduction to Database Management Systems, Types of Databases ,Hierarchical and Network Data Models, Relational, Entity Relationship and Object Oriented Data Models, Evolution of Data Models, Entity Relationship (E-R) Model, Logical Structure and Keys in Relational Models, Relational Algebra ,Relational Database Model, Developing E-R Diagrams, Database Tables and Normalization, Introduction to SQL, Introduction to the Database Query, Categorize Data Using Operators, Summarizing Data Results From a Query, Sorting and Grouping Data, Restructuring the Appearance of Data, Understanding Dates and Times, Joining Tables in Queries, Using Sub Queries to Defi ne Unknown Data, Combining Multiple Queries into One, Stored Procedures and Functions.

ITU3201-Web Development

Internet and Evolution of the Web, Client Server Model, Popular Internet Protocols, Markup Languages, Web Designing Fundamentals, Web Animation Technologies, Introduction to Web Development, Client Side Programming – Java Script, Server Side Programming – PHP, Cascading Style Sheets – CSS, Extensible Markup Language – XML, Web Services, Database Connectivity, Web Development Tools, Web Servers, Web Security, Search Engine Technologies, Search Engine, Optimization (SEO), Web Hosting, Mobile Web Applications, Web Technology Best Practices, HTML 5, ASP.NET Overview

ADU3330-Discrete Mathematics I

Propositions, Truth values, Logical connectives, Truth table, Tautology and Contradiction, Logical equivalence, Algebra of propositions, Validity of an argument, Quantifies, Nested quantifiers, Negation of quantified statements, Validity of an argument with quantifiers, Informal idea of a theorem and a proof, Converse, inverse and the contrapositive of statement, Direct proof, Proof by contradiction, contrapositive, exhaustion and cases, Disproving by counter-examples, Principles of Mathematical induction, Set notations, sets of numbers, Subsets of the real numbers and interval notation, operations on sets, Algebra of sets, set identities, power sets, Cartesian product of sets, Equivalence relations and equivalence classes, Properties of equivalence classes, Partitioning of sets, Definition of a function, Function notations, image and pre-image, One-to-one and onto functions, Composition of functions, Inverse function, image and inverse image of subsets under functions, Axioms of Boolean algebra and its properties, Correspondence between Boolean algebra and combinatorial logic circuits, Simplifications of combinatorial logic circuits using Boolean algebra.

COU3306-Data Structures and Algorithms

Overview, Preliminaries, List, Pointer Implementation of List, Advanced Linked List Structures, Stack, Queues, Tree Structures, Binary Trees, Applications of Tree Structures, Different Tree Structures, Graphs, Graph Traversals, Introduction to Algorithms, Analyzing Algorithms, Asymptotic Analysis of Algorithms, Recursion, Internal Sorting, Internal Sorting by Insertion, Internal Sorting by Selection, External Sorting, Searching Methods, Binary Search Trees, Hashing, Memory Management.

COU3303-Software Engineering

Introduction to software engineering, Software characteristics and components Software engineering principles, Software matrices and measurements, Software requirement specification process, Requirement elicitation techniques, Requirement analysis techniques, Formal specification and analysis techniques, Requirement Documentation, Requirement validation, Software Reliability, Software development, Critical Systems, Rapid application development, Software Re-Engineering, Component based software engineering, Software testing, Software maintenance, Software cost estimation, Software quality management, Configuration management, Computer aided software engineering tools.

ISU3300-Fundamentals of Information Systems

For students pursuing the Information Technology degree, this subject is a requirement. It aims to give students the knowledge and abilities needed to learn a variety of chosen key concepts listed in the course synopsis. Students will develop their ability to comprehend, evaluate, and properly convey learned theories in the form of structured and essay answers facing Continuous Assessment Tests (CATs) through studying on their own with the aid of a main teacher. Day schools will offer instructions on how to efficiently conduct studies and compile answers in the examinations. By studying these topics, students will gain a comprehensive understanding of the fundamentals of Information Systems and their applications in various organizational contexts.

COU3303-Software Engineering

Introduction to software engineering, Software characteristics and components Software engineering principles, Software matrices and measurements, Software requirement specification process, Requirement elicitation techniques, Requirement analysis techniques, Formal specification and analysis techniques, Requirement Documentation, Requirement validation, Software Reliability, Software development, Critical Systems, Rapid application development, Software Re-Engineering, Component based software engineering, Software testing, Software maintenance, Software cost estimation, Software quality management, Configuration management, Computer aided software engineering tools.

ISU3201-IT Organization

IT and Organizational context / Organization structure and change within an organization, Roles and Responsibilities, Nature of projects, Introduction to Planning and management of IT project (Selecting a Group and a Lead [Practical], Selecting your software Project [Practical] Team Participation /Managing teams during project management - Team work assignment), Project management and project management frameworks, the concepts and use of project management tools, techniques and methodologies, The business case and the project proposal [charter/plan], Project management life cycle including planning, execution, control and closure – Project initiation, project planning and scheduling, project monitoring and control, and project termination, Managing project communication, schedule, cost, scope, procurement, quality and risk management, Alternative approaches to project management, Monitoring and evaluation of a project's success

COU4300-Object Oriented Programming

Introduction to Object Oriented Programming, Object Oriented Programming Terminologies, Introduction to JAVA, Objects and Classes, Java Syntax for OOP, Classes and Objects in Java, controlling access to Java classes, Class constructors in Java, Inheritance, Polymorphism, Overloading, Overriding, Abstract classes and methods, Final classes, Interfaces in Java, Inner classes, Association, Aggregation, Composition, Exception Handling, Threads and Multithreaded programming, Swing class.

COU4201-Knowledge Representation and Logic Programming

Introduction, Propositional Logic and First-Order Logic(FOL), Expressing Knowledge, Resolution, Reasoning with Horn Clauses, Introduction to Logic Programming, Fundamentals OF Logic Programming, Advanced Features in PROLOG, List Processing in PROLOG, String Processing, Rules in Production Systems, Object-Oriented Representation, Inheritance.

ISU4200-Professional Practices and Ethics

Social Context in Computing, Accessibility to the Digital Technology, Impact of Digital Technology, Analytical Tools, Ethics, Evolution of Professional, Role of Computing Professional, Professional Relationship, Professional Communication, Professional Ethics, Intellectual Property Rights, Cultural Concerns, Computer and Internet Crime, Risk, Risk Assessment

COU4302-Operating Systems

Objectives and History of Operating Systems, Operating Systems Components and Functions, Process Concepts and Management, Process Scheduling Algorithms, Concurrent Process Synchronization, Inter Process Communication, Semaphores & Monitors, Deadlock Definition, Deadlock Detection and Recovery, Need for the Memory Management, Memory Allocation to Programs, Partitioning of Memory, Free Memory Management, Memory Protection Hardware in Multiprogramming Systems, Paging & Page Replacement Mechanisms, Segmentation, Threads and Thread Management, Overview of Files, File Access Methods, Structure of Directory, File Sharing & Protection, File System Structure & File Allocation Methods, Free Space Management Techniques, File System Recovery.

COU4304-Computer Architecture

Introduction to the course and lab, Overview and history of computer architecture, Computer-aided design tools that process hardware and architectural representations, Hardware description languages – Verilog (Practical), Basic organization of the von Neumann machine, Register Transfer Level (RTL), Finite State Machines (FSM), Instruction set architecture, Programming abstractions, interfaces, use of libraries, Processor Design, Storage systems and their technology, Implementation of simple datapaths, including instruction pipelining, Hazard detection and resolution, Review of physical memory and memory management hardware, Input and output, Examples of I/O, Performance figures of merit Workloads and representative benchmarks, and methods of collecting and analyzing performance figures of merit.

ADU4230-Discrete Mathematics II

This is a second year Mathematics course offered by the Dept. of Mathematics for the Bachelor of Information Technology Degree Programme and is a 2-credit course. The course comprises only one unit. Prerequisite of this course is ADU3230. This course aims to provide Mathematical background in application of some techniques in discrete Mathematics.

ITE4120-Industry Readiness

Industry requirements, Carrier pathways, Who you want to be – what is the best path, New trends in the industry, Interviews and presenting your self, How to get a job and grow, How to become a successful IT professional, Achieving Goals

COU4305-Computer Networks

Fundamentals of networking, Open Systems Interconnection (OSI) and Internet models of networking, Functionality of layers of OSI / Internet models, Networking media and network devices(switches, routers), Network protocols, IP addressing & subnets, routing, Configuring network switches and routers, network services and server systems, Windows Networking and server installation, Active directory installation and confi guration, User/computer policy management, Linux / Unix overview and system installation, Threats to computer networks and threat mitigation.

ITE5621-Industrial Training

Students will gain knowledge by working in the industry. Self-learning/independent learning of self - study (IL) Learning through practical exercises & group work projects (PR) & (GP)

COU4303-Artificial Intelligence

Artificial Intelligence is an emerging field in the modern days. Turing test is the elementary test that have been done to identify the Artificial Intelligence behavior. Then we discuss about what is meant by an intelligent agent. Furthermore, we discuss about the nature of environment and the properties of them. Structure of and agent helps us to identify and classify the different types of agent programs. An agent that tries to come up with a sequence of actions that will bring the environment into a desired state is called by a problem-solving agent. Then we discuss about some example problems for problem solving agents. Then we discuss about searching for solutions and uninformed search strategies. Then we identify how to avoid a repeated state and then we moved to informed search strategies. Since classical search algorithms keeps the path to goal while local search algorithms the path to goal is not matter. Constraint Satisfaction Problem and backtracking search for CSPs are the next topics that we have to discuss. Then we discuss about Logical Agents. Adversarial Search and the Classical Planning is the next lesson that we discussed here. Finally, we discussed about some example games in prolog.

ITU4202-User Experience Design

Introduction, Perspectives of User Experience Design, UX and Its Impact On Customer Experience, Human Factor Principles in UX Design, Effective Interfaces, Information Architecture in UX, Affective user experience, Human Centered Design (HCD), Human-Centered Evaluation, Introduction to Assistive Technology, Accessibility in UX Design, User Advocacy

ITU4200-Software Validation and Assurance

Introduction to the course, Introduction to Software quality assurance and benchmarking measurements, Program comprehension, Program correctness – Types of errors (syntax, logic, run-time), The concept of a specification, Defensive programming (e.g. secure coding, exception handling), Code reviews, testing fundamentals and test-case generation, the role and the use of contracts, including pre- and post-conditions, Unit testing, Verification and validation concepts, Inspections, reviews, audits, Testing types, including human computer interface, usability, reliability, security, conformance to specification (cross-reference IAS/Secure Software Engineering), Testing fundamentals (cross-reference SDF/Development Methods) – Unit, integration, validation, and system testing, Test plan creation and test case generation, Black-box and white-box testing techniques, Regression testing and test automation, Defect tracking, Limitations of testing in particular domains, such as parallel or safety-critical systems, Simple refactoring, Modern programming environments - Code search, Programming using library components and their APIs, Debugging strategies, Documentation and program style, Building security into the software development lifecycle, Secure design principles and patterns, Secure software specifications and requirements, Secure software development practices, Choice of programming language and type-safe languages, Secure testing - the process of testing that security requirements are met (including static and dynamic analysis), Input validation and data sanitization, Examples (Buffer overflows, Integer errors, SQL injection, XSS vulnerability) 18. Race conditions, Correct handling of exceptions and unexpected behaviors, Correct usage of third-party components, effectively deploying security updates.

COU4306-Cryptography

Introduction to Course, History of cryptography, Introduction to Cryptography, Classical Cipher Types, Modern Cryptography, Typical Attack Methods, Mathematical Preliminaries Essential for Cryptography, Cryptographic Primitives, Symmetric Key Cryptography, Symmetric-Key Management, Public Key Cryptography, Public Key Cryptography and the Digital Envelope, Authenticated Key exchange Protocol, Authentication Applications Kerberos, X.509 Authentication Service, Cryptographic Protocols, Motivate concepts using real-world applications, Security definitions and attacks on cryptographic primitives, Cryptographic Standards and References Implementation, Quantum Cryptography, Cryptography Algorithm with Sage

ADU4231-Probability and Statistics

Data Summaries and Applications of Probability - Random variables: Discrete and Continuous Random variables, Expected value and variance, Types of data and data summaries, Measures of Location (mean, median, weighted mean, trimmed mean, mode, quartiles, percentiles), Measures of Dispersion (Standard deviation, variance, mean absolute deviation, range, interquartile range, Coefficient of variation), Skewness, Kurtosis, Introduction to probability, Sample space, events, Venn diagram, Tree diagram, mutually exclusive events, independent events, exhaustive events, union, intersection, conditional probability, Total probability law, Bayes' Theorem, Applications using Excel and R. Basic Statistical Distributions and Applications - Probability mass functions of selected discrete random variables: Bernoulli distribution, Binomial distribution, Geometric distribution, Calculation of expected value and variance using probability mass function, Continuous random variables, Probability density functions of selected continuous random variables: normal distribution, Student-t distribution, Calculation of probabilities using normal and t-tables, Calculation of expected value and variance of continuous random variables using probability density functions

ITU5300-Human Computer Interaction

Fundamentals of HCI - Introduction to HCI, Historical evolution of the HCI, The Basic human abilities, Computer and Interaction , Psychological aspect with HCI -Perceptual psychology and Cognitive Frameworks, Knowledge and Mental Models, Interface Metaphors, Attention and Memory, Socio-organizational Issues and Stakeholder Requirements, Design and implementation with HCI Interaction Design Basics, Methods, techniques and heuristics for design of the user interface., Standards, style guides and guidelines, Universal Design, Multimodal interfaces (touch, vision, natural language and 3-D audio), HCI in software process model, Usability Engineering and Benchmarking, User-centered design, task analysis/GOMS, Design & Prototyping, Evaluation and User Support - Evaluation Techniques in HCI, User Support

ADU5330-Inferential Techniques and Statistical Modeling

Inference on a single population- Introduction to statistical inference, formulating a statistical hypothesis, Parametric Tests of hypothesis on the mean (Z-test, t-test), Non-parametric tests (Chi-squared test, Sign test, Wilcoxon test), Applications using MINITAB and R; Comparison of two or more populations- Comparison of two population means based on independent sample t-test, Comparison of two population means based on paired t-test, Comparison of three or more population means using ANOVA, Inference on population median using non-parametric tests, Comparison of two population medians using non-parametric tests (Wilcoxon's Signed Rank Test, Mann-Whitney Test), Comparison of three populations based on non-parametric tests (Kruskal Wallis Test, Friedman Test; Measuring Statistical Associations and Inference- Pearson correlation coefficient, Spearman's Rank correlation coefficient, Simple Linear regression model, Least Squares Estimation, Parameter estimation in Multiple Linear Regression Models, Logistic Regression and estimation; Applications using MINITAB and R

ITU5303-Multimedia Design and Technology

Introduction to Multimedia, Multimedia and Hypermedia, www and SMLI, Multimedia Software tools, Multimedia Authoring and Tools, Multimedia Authoring, Editing and Authoring Tools, VRML, Graphics and Image data Representations, Graphics and Image Data types, File Formats, Colour in Image and Video, Functionality of Human eye, Camara systems, Basics of Colour science. Colour models in Images, Colour Models in video, Fundamental concepts in Video, Types of Video signals, Analog signals, Digital Signals. Basic digital Audio, Digitization of sounds, Musical Instrument Digital Interface, Quantization and Transmission of Audio, Multimedia data compression, Lossless compression algorithms, Lossy Compression Algorithms, Image Compression Standers, Basic video Compression Techniques, Basic Audio Compression Techniques, Multimedia communication and Retrieval, computer and multimedia networks, Multimedia Network Communication and Applications.

COU5300-Artificial Neural Networks

What is a Neural Network? Benefits of Neural Networks, History of neural networks, Biological Neural Networks, The structure of an artificial neural networks, Architecture of the ANN, Fundamentals on learning and training samples, Error measurement, Gradient decent, The Hebbian learning rule, The perceptron, The perceptron convergence theorem, ADALINE, Backpropagation neural networks, Convolutional neural networks, Radial basis function networks, ANN implementation using Python

ITU5301-Software Quality Assurance

Introduction to Software Quality Assurance, Quality Assurance Concepts, What is Quality Software, Problems in Software Development Process, Software Quality Assurance Standards, Software Engineering Testing, Testing Techniques, Software Testing in Difference Environments, Static versus Dynamic Testing, Types of Testing, Levels of Testing, Creating a Test Plan, Software Bugs, Quality Assurance versus Quality Control, The Cost of Quality, Software Quality Factors, Factors Affecting Software Testing, The Five Levels of Maturity, Risk Management, Configuration Management, Automating Testing, Performance Testing, The Importance of Work Process, Testing Competency, Team Building.

ISU5300-Management Information Systems

Introduction to Management Information Systems (MIS), Information Systems in the Enterprise – Major Types of Systems in Organizations, Information Systems, Organizations, Management, and Strategy, The Digital Firm: Electronic Business and Electronic Commerce, Ethical and Social Issues in the Digital Firm, IT Infrastructure and Platforms, Organizing Data in a Traditional File Environment, Telecommunications and Networking in Today's Business World, The Internet, Technologies and Tools For Communication and E-Business, The Wireless Computing Landscape, M-Commerce and Mobile Computing, System Vulnerability and Abuse, Security and Control, Enterprise Applications and Business Process Integration, Managing Knowledge in The Digital Firm, Intelligent Techniques Used in MIS, Decision Making and Decision-Support Systems, Redesigning the Organization With Information Systems -BPR and Process Improvement, Overview of Systems Development, Alternative Systems-Building Approaches, Understanding The Business Value of Systems, Managing Change and Implementation, Managing International Information Systems, Technology Challenges of Global Systems

ITU5302-Data Scalability and Analytics

Perspectives and Impact, Large –scalable data challenges, Data management, Methods, techniques, tools, Data governance, Applications of Data Scalability

ITU5305-Enterprise Application Development

Introduction to Enterprise Application Enterprise Architecture, Life cycle, development framework, Web and cloud applications, Enterprise servers, Enterprise Resource Planning (ERP), Customer Relationship Management (CRM) , Enterprise Java, MVC Architecture for Web Applications Web Tier - XML Basics, Java Servlets, Java Server Pages, Session handling, JavaServer Faces technology, Contexts and Dependency Injection for Java EE, The Business Tier - Java EE technologies used in the business tier in Java EE applications: Enterprise JavaBeans (enterprise bean) components, JAX-RS RESTful web services, Java Persistence API entities, Enterprise Information System Tier(EIS) - database servers, enterprise resource planning systems, and other legacy data sources, like mainframes. Java EE technologies are used to access the EIS tier in Java EE applications:The Java Database Connectivity API (JDBC), The Java Persistence API, The Java EE Connector Architecture, The Java Transaction API (JTA), Creating applications.

ISU5301-Industry Sustainability and Law

Introduction to the course, Sustainability, Environmental Impact of computer usage, Guidelines for sustainable design standards, Research on applications of computing to environmental issues, The interdependence of the sustainability of software systems with social systems, Economics of Computing, Entrepreneurship, Philosophical foundations of intellectual property, Intellectual property rights, Foundations of the open-source movement, Software piracy, Philosophical foundations of privacy rights, Legal foundations of privacy protection, Technology-based solutions for privacy protection, Security Policy and Governance, Privacy legislation in areas of practice, Computer crimes and legal redress for computer criminals, Crime prevention strategies

ITU5307-Cybersecurity

Perspectives and impact, Policy goals and mechanisms, Security services, mechanisms, and countermeasure, Cyber-attacks and detection, High assurance systems, Vulnerabilities, threats, and risk, Anonymity systems, Usable security, Malware fundamentals, Mitigation and recovery, Personal information, Operational issues.

ITU5306-Internet of Things

Introduction and evolution of IoT, Organisation and primary components of IoT systems, Structure of IoT systems IoT backend modules, IoT gateways, The IoT edge, A reference IoT architecture, Design principles and design requirements for the reference architecture, Real-world constraints, Design issues for the IoT edge, Sensors and actuators for IoT systems Interoperability and reliability issues, Communication protocols and protocol stacks for the edge devices, Hardware security for edge devices, Security, trust, and privacy issues in IoT, Identity management of IoT edge devices, IoT case studies, Smart grid, Home automation, Industrial IoT.

ITU5309-Virtual Systems and Services

Perspectives and impact, Application of virtualization, User platform virtualization, Server virtualization, Network virtualization Cluster design and administration, Software cluster applications, Storage

ITU5304-Wireless and Cellular Networks

Introduction to wireless and global cellular networks - Historical developments, spectrum, communication system, transmission fundamentals, Signals and Bits - Analog & digital baseband signals, signal encoding techniques, channels, multiplexing, spread spectrum, bandwidth, noise and interference, redundancy and error checking, Antennas - Signal Properties that Influence Antenna Design, Impedance & Gain, Polarization & Bandwidth, Types of Antennas, Antennas for Different devices and applications, Antenna Arrays, Wireless LAN technologies - Wireless channels, 802.11 Wi-Fi, Gigabit Wi-Fi, Bluetooth , Mobile IP & TCP over wireless, Cellular systems - 1st Generation, 2nd Generation, 3rd Generation & 4th generation cellular networks, Broadband & Satellite Communications - Fixed broadband technologies, Sattelite communicatons, WiMax and Long range communications, 5G - 5G Spectrum and Architecture, 5G Physical layer and radio protocols, 5G Transport & Deployment, IoT and 5G, Security in Wireless networks - Threats, securing data, cryptography in wireless networks, RF field's Biological effects - RF

ITU5308-Web Technologies

Internet and Evolution of the Web, Client Server Model, Popular Internet Protocols, Markup Languages, Web Designing Fundamentals, Web Animation Technologies, Introduction to Web Development, Client Side Programming – Java Script, Server Side Programming– PHP, Cascading Style Sheets – CSS, Extensible Markup Language – XML, Web Services, Database Connectivity, Web Development Tools, Web Servers, Web Security, Search Engine Technologies, Search Engine Optimization (SEO), Web Hosting, Mobile Web Applications, Web Technology Best Practices, HTML 5, ASP.NET Overview

COU5301-Cloud Computing

Introduction,Types of clouds (public, private, hybrid), Comparing vendor cloud products: Amazon, Google, Microsoft and others, Cost-effective billing models, Identity and Access Management. Software as a Service (SaaS) - Deploying Applications, Implementing Web services in SaaS , Centralized installation & administration, Optimizing cost and performance with scale on demand, Improving collaboration with business productivity tools. Platform as a Service (PaaS) - Components of PaaS, PaaS provisions of different vendors, Selecting an appropriate implementation, Controlling unstructured data in the cloud, deploying relational databases in the cloud, Testing in the cloud, Monitoring cloud-based services, Analyz-ing portability across platforms. Infrastructure as a Service (IaaS) - Scalable server clusters, Achieving transparency with platform virtualization, Elastic storage devices Provisioning servers on demand, Handling dynamic and static IP addresses, Tools and support for management and monitoring Achieving transparency with platform virtualization. Migration to Cloud - Technical considerations, Building a migration plan with financial constraints, Re-architecting applications for the cloud, Integrating the cloud with existing applications, Avoiding vendor lock-in, Planning the migration and selecting a vendor. Evaluating barriers to cloud computing - Handling of sensitive data, Cloud security, availability and disaster recovery strategies

COU6303-Advanced Database Management Systems

Indexing structures for files; types of single level ordered indices, multi-level index and Dynamic multi-level indices, B trees & B+ trees, indexes of multiple keys and other type of indexes, Indexing text , Indexing the web, Introduction to transaction processing; transaction and system concepts and theory, Properties of transaction, Characterizing schedule based on recoverability and serializability. Concurrency control techniques; two face locking techniques, Concurrency control based in time stamp ordering, Multi version and Validation concurrency control techniques, Database recovery techniques and concepts, Recovery techniques based on deferred update and immediate update, Shadow paging, Concepts for Object Databases, Object Database standards; Languages and Design , Object-relational databases, Distributed databases and client service architecture; concepts and types, Query processing , Transactions and Concurrency control of distributed databases, Replication and consistency of distributed databases, Parallel da-

COU6304-Advanced Data Structures and Algorithms

Algorithmic Strategies, Computational Complexity - Review of the classes P and NP; introduce P-space and EXP, Polynomial hierarchy, NP-completeness (Cook's theorem), Classic NP-complete problems, Reduction Techniques, Analyze amortized cost and randomized running time complexities Amortized Analysis, Randomized Algorithms, Concurrent Algorithms, Computational Geometry, Parallel Algorithms, Analysis, and Programming, Critical paths, work and span, and the relation to Amdahl's law (cross-reference SF/Performance), Speed- up and scalability, naturally (embarrassingly) parallel algorithms, Parallel algorithmic patterns (divide-and-conquer, map and reduce, master-workers, others), Specific algorithms (e.g., parallel Merge Sort) ,Algorithmic Strategies, Computational Complexity - Review of the classes P and NP; introduce P-space and EXP, Polynomial hierarchy, NP-completeness (Cook's theorem), Classic NP-complete problems, Reduction Techniques, Analyze amortized cost and randomized running time complexities Amortized Analysis, Randomized Algorithms, Concurrent Algorithms, Computational Geometry, Parallel Algorithms, Analysis, and Programming, Critical paths, work and span, and the relation to Amdahl's law (cross-reference SF/Performance) Speed-up and scalability, naturally (embarrassingly) parallel algorithms, Parallel algorithmic patterns (divide-and-conquer, map and reduce

ISU6300-IT Risk Management

Introduction to information security Inspection, Resource inventory, Threat assessment, Identifying vulnerabilities, Assigning safeguards, Protection, Awareness, Access, Identification, Authentication, Authorization, Availability, Accuracy, Confidentiality, Accountability, Administration, Detection, Intruder types, Intrusion methods, Intrusion process, Detection methods, Monitoring systems, Reaction, Incident determination, Incident notification, Incident containment, Assessing damage, Incident recovery, Automated response, Reflection, Incident documentation, Incident evaluation, Legal prosecution, Risk assessment frameworks, COSO Integrated Control Framework, CoBiT – ISACA, Australia/New Zealand Standard – Risk Management, ISO Risk Management – Draft Standard, Security engineering, Protocols, Passwords, Access controls, Cryptography, Physical aspects, Biometrics, Physical tamper resistance, Security printing and seals, Security in connected systems and networks, Distributed systems, Telecom system security, Network attack and defense, Protecting e-commerce systems, Policy and management issues, Copyright and privacy protection, E-policy

COU6308-Machine Learning

Introduction – what is Machine Learning? Example of Machine Learning application, Supervised, Reinforcement and Unsupervised Learning, Unsupervised Learning – Clustering, Supervised Learning – Classification, Nonlinear classification, Linear regression, Machine Learning Methods – Naive Bayesian Classifier, Support Vector Machines, Neural networks, decision trees, K-nearest neighbors, K-means, Gaussian mixtures, Training, Validation and Testing– over fitting/under fitting, K-fold Cross Validation, Confusion matrix, Evaluation matrix.

COU6309-Information Security

Principles of secure design, Network Security, Network specific threats and attack types, Use of cryptography for data and network security, Architectures for secure networks, Defense mechanisms and countermeasures, Security for wireless, cellular networks, Other non-wired networks, Censorship resistance, Operational network security management, Web Security, Web security model, Session management, authentication, Application vulnerabilities and defenses, Client-side security, Server-side security tools, Overview of system security, Platform Security, Security threats from peripherals, Resilience and Risk Management

COU6303-Data Mining

Data mining is the pr ocess of sorting through large data sets to identify patterns and relationships that can help solve business problems through data analysis. Data mining techniques and tools enable enterprises to predict future trends and make more-informed business decisions. Data mining is a key part of data analytics overall and one of the core disciplines in data science, which uses advanced analytics techniques to find useful information in data sets.

COU6307-Digital Forensics

Basic Principles and methodologies for digital forensics, Design systems with forensic needs in mind, Rules of Evidence – general concepts and differences between jurisdictions and Chain of Custody, Search and Seizure of evidence: legal and procedural requirements, Digital Evidence methods and standards, Techniques and standards for Preservation of Data, Legal and Reporting Issues including working as an expert witness, OS/File System Forensics, Application Forensics, Web Forensics, Network Forensics, Mobile Device Forensics, Computer/network/system attacks, Attack detection and investigation Anti-forensics

ISU6302-Social Media and Global Computing

Different types of social media - Different types of social media with its purpose and features, Use social media technology, such as Facebook, Twitter, blogs, and wikis to identify its purpose and features. Explore the possibilities and limitations of social media, Social Media Landscape, Platforms Overview, Social media marketing - Discuss the positive and negative influences of social media on individuals, businesses, and society as a whole, Internet marketing ecosystem. Social media Marketing strategies, Optimization of social mediapages/contents/profiles/ business accounts/channel, Understand the audience, choose the social media channel, social media marketing strategy suited to your needs, effective social media marketing campaigns, Monetizing and effective social media marketing campaigning, Technologies used to design of social media applications, Design and implementation of a social network applications, Technologies used in social media : web technologies, front-end and back-end technologies, APIs, chatbots, Privacy policies, Security, privacy, local and international rules and ethics of using social media. Identify and apply safety guidelines when communicating on social media platforms

ISU6305-IT Project Management

Introduction, A Project and it's Management, The Project Management Context – Project Life Cycle & Project Phases, Project Management Context – Project Stakeholder and Organizational Influences, Project Management Process Groups, Strategic Planning and Project Selection, Project Integration Management, Project Scope Management, Project Time Management, Project Cost Management, Project Quality Management, Project Human Resource Management ,Project Communication Management, Project Risk Management, Project Procurement Management, Project Stakeholder Management

Appendix 1 Schedule of Exemptions

Specific Exemptions from Foundation courses in Science

Specific Exemptions for EGAP (LTE3413) (scores given below should not be more than 3 years old)

IELTS*	Overall score of minimum 5.0 (academic) or 5.5 (general), with not less than 4.0 in writing
TOFEL*	Paper based: overall score of minimum 450 with 3.5 in writing; Computer based: overall score of minimum 200 with 3.5 in writing; Internet based: overall score of minimum 90 with 3.0 (scaled score of 20) in writing
G.C.E (A/L) English Medium	Student who have completed their advance level Examination in English Medium conducted by the department of Examination.
London A/L	Students who have completed London A/L (Edexcel or Cambridge).
UTEL	Score of not less than band 6.00 in all 4 skills.
Successful completion of a Bachelors Degree/Postgraduate Diploma/Masters in the English medium. Successful completion of a Bachelors Degree/Postgraduate Diploma/Masters in the English medium. National Collage of Education-National Diploma in Teaching (English) conducted and awarded by the NIE. Higher National Diploma in English (SLIATE). Diploma in English from a recognized university. Diploma in Library and Information Science (in the English medium) conducted by the Sri Lanka Library Association. English as a subject at the G.C.E. Advance Level. Diploma in English Language and Literature and Advance Certificate in English conducted by Department of Language Studies.	

* IELTS and TOEFL scores should be obtained not more than 3 years prior to the date of request.

Appendix 2
OUSL Computer Centres

Centre Address	Telephone No.
• *Ampara* The OUSL Study Centre, Iginiyagala Road, Ampara	0632224388
• *Ambalangoda* The OUSL Study Centre, Polwatta Road, Halwatura, Ambalangoda.	0912255310
• *Ambalantota* OUSLStudy Centre, Ragasaranagama, Lunama, Ambalantota	0112856203
• *Anuradhapura* The OUSL Study Centre, Jayanthi Mawatha, Anuradhapura	0252224487
• *Badulla* Sri Lanka Institute of Advanced Technological Education, Greenland Drive, Badulla	0112671783
• *Batticaloa* The OUSL Study Centre, Bar Road, Batticaloa	0652222264
• Faculty of Education Building (ground floor) The OUSL, Nawala, Nugegoda	0112814557
• *Galle* OUSL Study Centre, Labuduwa, Galle	091-2223784
• *Gampaha* Open University of Sri Lanka Study Centre, Gampaha Road , Miriswatta, Madugoda	0332234572/1
• *Jaffna* Open University of Sri Lanka Study Centre, Browns Road, Kokuvil, Jaffna.	021-2221810
• *Kalutara* Open University of Sri Lanka Study Centre, 66/2, Nagoda Road, Kalutara.	034-2220850
• *Kandy* The OUSL Regional Centre, Pollgolla, Kandy	081-2494119
• *Katunayake* Inststitute of Engineering Technology,Temple Road, Katunayake	0112252831
• *Kegalle* OUSLStudy Centre, Kumaratunaga Munidasa Mawatha, Kegalle	035- 2222086

• **Kurunegala** The OUSL Study Centre, Nissanka Mawatha, Malkaduwawa Kurunegala	0372220917
• **Matara** The OUSL Study Centre, Nupe, Matara	0412222314
• **Monaragala** The OUSL Study Centre, Potuvil Road, Monaragala	0552277377
• **Nawala**, Colombo Regional Centre Building, (ground floor) The OUSL, Nawala, Nugegoda	011-2810088 011-2881080
• **Peradeniya** University of Peradeniya, Peradeniya	081 – 2389206
• **Polonnaruwa** OUSL Study Centre, Mahavali Housing Scheme, New Town, Polonnaruwa	027-2223048
• **Puttalam** Open University of Sri Lanka Study Centre, 137/1, Colombo Road, Puttalam.	Ms.Nirosha – 071-4484854
• **Rathnapura** The OUSL Study Centre, Hidellana, Rathnapura	452228075
• **Trincomalee** Sri Lanka Institute of Advanced Technological Education, Selvanayagapuram Rd, Uppuweli ,Trincomalee.	011-2768051 011-2881333 011-2881380
• **UOC** University of Colombo,"College House",94, Kumaratunga Munidasa Mawatha, Colombo 03	011-2814557
• **Vavuniya** Open University of Sri Lanka Study Centre, 366, Thekkawatta, Vauniya	024-2225995
• **Waligatta** institute of Agro Technology and Rural Sciences of the University of Colombo. Weligatta New Town, Weligatta, Hambantota	047-3625245

OUSL Holidays

The OUSL recognises seven special holidays on which no compulsory activities will be scheduled.

1.   Thai Pongal Day   .... 2023 January 15

2.   Independence Day .... 2023 February 04

3.   Sinhala and Hindu New Year Day .... 2023 April 12, 13, 14

4.   May Day .... 2023 May 01

5.   Wesak Full Moon Poya Day .... 2023 May 05

6.   Prophet Mohammed's Birthday .... 2023 September 28

7.   Christmas Day .... 2023 Decmber 24 (Regional Centres/Study Centres), 25,   26 (Central Campus)