



BOTSWANA INTERNATIONAL UNIVERSITY
OF SCIENCE & TECHNOLOGY



Driving Change

BIUST UNDERGRADUATE **PROSPECTUS** 2020/21

www.biust.ac.bw



January / Hirikgong

MON	TUE	WED	THU	FRI	SAT	SUN
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February / Tlhakole

MON	TUE	WED	THU	FRI	SAT	SUN
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

March / Mopitlo

MON	TUE	WED	THU	FRI	SAT	SUN
30	31					1
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9	10	11	12	13	14	15
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23	24	25	26	27	28	29

April / Moranang

MON	TUE	WED	THU	FRI	SAT	SUN
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20	21	22	23	24	25	26
27	28	29	30			

May / Motsheganong

MON	TUE	WED	THU	FRI	SAT	SUN
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June / Seetebosigo

MON	TUE	WED	THU	FRI	SAT	SUN
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July / Phukwi

MON	TUE	WED	THU	FRI	SAT	SUN
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August / Phatwe

MON	TUE	WED	THU	FRI	SAT	SUN
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

September / Lwetse

MON	TUE	WED	THU	FRI	SAT	SUN
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October / Phalane

MON	TUE	WED	THU	FRI	SAT	SUN
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November / Ngwanatsele

MON	TUE	WED	THU	FRI	SAT	SUN
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

December / Morule

MON	TUE	WED	THU	FRI	SAT	SUN
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

BOTSWANA HOLIDAYS

New Year's Day, 1st January
 Public Holiday, 2nd January
 Good Friday, 10th April
 Easter Monday, 13rd April
 Labour Day, 1st May

Ascension Day, 21st May
 Sir Seretse Khama Day, 1st July
 President's Day, 20th July
 Public Holiday, 21st July
 Botswana Day, 30th September

Public Holiday, 1st October
 Christmas Day, 25th December
 Boxing Day, 26th December
 * PAID PUBLIC HOLIDAYS





UNDERGRADUATE PROSPECTUS 2020/21

CONTACTS

Enrolment and Admissions Office
Private Bag 16, Palapye

Tel: (+267) 4931000 / 4931480 / 1/9

Fax: (+267) 4900102

Email: admissions@biust.ac.bw

Web: www.biust.ac.bw

Driving Change

Visit BIUST - Facilities



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Vice Chancellor's Message

It is my pleasure to welcome you to the Botswana International University of Science and Technology (BIUST).

BIUST offers qualifications which are designed to help you launch your career, where upon graduating, you will have the requisite skills to be globally competitive and contribute to Botswana's economy through employment or entrepreneurship. BIUST emphasizes critical thinking, problem-solving, innovation and entrepreneurship along with the acquisition of technical skills in engineering, technology and science disciplines. Our students go through robust training on business management and entrepreneurship to position them to be self-employed and create employment for the country. BIUST graduates are trained to international standards to enable them to compete with any graduate from any University.

I pledge to provide you with an enjoyable, safe, supportive and intellectually stimulating environment as you pursue your chosen field of study. You will be able to choose from a wide array of sporting activities available to our students to ensure that you live an exciting and enriched student life. You will in the process interact with students from different cultures and countries who will enrich your experience of diversity and assist you to grow your network of friendships and researchers that will sustain you throughout your studies and beyond. Take heed as your studies require hard work, dedication and discipline to succeed.

I thank you for choosing to study in BIUST, and I commit to make your stay and studying in BIUST worthwhile and memorable.

A handwritten signature in black ink, appearing to read 'Otlogetwe Totolo'.

Professor Otlogetwe Totolo
Vice Chancellor

Why you should STUDY in BIUST

Teaching Excellence

The University has invested heavily on providing state-of-the-art facilities such as laboratories and other equipment needed to stimulate learning and facilitate innovative teaching. The University has carefully selected internationalised experts who are tasked with delivering quality education to our students and in the process share global experiences.

The University aims to engage and inspire its students to challenge their thinking and support them to fulfil their potential during their stay in BIUST, through a combination of interactive lecturers, seminars, field work, research, practical sessions, industrial attachments and stakeholder engagement.

Specialised University

BIUST prides itself as the first specialised tertiary education institution and a research - intensive University in Botswana, aimed at being a catalyst for innovation and our country's economic transformation drive. If you choose to study in BIUST, you will be equipped with world-class education and provide engineering & technology and science and research-based solutions which will impact on communities locally, regionally and in the international arena.

Enriched Learning Experience

The University has adopted a strong academic support model where students are paired with their Academic Advisors to guide and support in their studies in readiness for graduation.

Students are also supported by tutors who provides them with practical guidance and extra lessons on a range of academic issues to help them excel in their studies. As a BIUST Student, you will also have an opportunity for a peer mentor - a trained student volunteer from your course, to help you with assignments and another course material, percolate to boost excellence in your respective modules.

Industry Linkages and Partnerships

The University is contributing to the country's roadmap through linkages and industry partnerships with industry, research institutions and other tertiary institutions locally and across the globe in order to ensure that learners have a better learning experience in order to compete globally. The University has aligned its curriculum to the needs of industry players such as mining, telecommunications, health, information communications technology and other sectors in order to ensure that there is adequate supply of quality skilled force.

Entrepreneurship and Business Management Model

Through its Center of Business Management, Entrepreneurship and General Education; the University has introduced a range of modules which are meant to provide students with a range of soft skills on conceptualization of business ideas, development of business proposals, advice on business management, mentoring and guidance towards access to funding as well as exposure to networking events which sets our students on the right path to be successful entrepreneurs.

APPLICATION GUIDELINES

Applicants are required to apply only if they meet the **minimum** entry requirements. To start the application process, please visit the University website to access the prospectus and download the application form. You may also send a request for an application form and the prospectus through email at admissions@biust.ac.bw.

Prospective student may also visit the university campus in Palapye to seek career advice and collect the application forms, or simply contact **Enrolment and Admissions** staff for further assistance with the application process.

Tel: +267 4931000/ 267 4931480/1/9.

Applicants must submit only **one** application. The application form allows an applicant to choose three (3) programmes. It is in the applicants' best interest to seek advice about his/her programme choices prior to submitting an application, since selection affects an applicants' chances of admission.

CHANGE OF PROGRAMME

Applicants who decide to change the programme of study applied for, may do so not later than the stated closing date.

Applicants should apply caution when selecting a programme of study, E.g when indicating a second or third choice or making any other changes. Furthermore, applicants are advised to be realistic about whether they are likely to qualify and whether the chosen programme matches their interests and aptitude.

Applicants are also encouraged to consult an Enrolment and Admissions or Programme Lecturer for career counselling to determine an appropriate career path and consequently an appropriate qualification.

All requests to change programme previously applied for, must be made through email to admissions@biust.ac.bw.

Closing date for receiving applications is 30th April 2021



ENTRY REQUIREMENTS

The University considers and assesses every application on its own merits, considering the relevance of qualifications and experience each student has. For students with a Botswana General Certificate of Secondary Education (BGCSE) or equivalent, the following minimum requirements will apply for undergraduate degree programmes:

- A credit in at least six subjects in BGCSE or equivalent. These subjects must include a minimum of Pass (D) in English and at least a Credit (C) in Mathematics plus two Science subjects.
- BGCSE holders or equivalent should possess a minimum of 20 points from any of Mathematics, and Physics and/or Chemistry and/or Biology or Science double award
- A minimum combined point score for admission from the six subjects (including Mathematics, English, two science subjects or Science Double Award, must be above 38 points based on the points scores in the following table:

Grade	A*, A	B	C	D	E
Points	8	7	6	5	4

Points for Science Double Award are doubled E.g. Grade AA= 16 Points

- Students with other qualifications (i.e. non-BGCSE and its equivalents) including international students, will be considered on their own merits and equivalency to BGCSE.

Direct Entry into Second Year

- The University will consider A-level holders and those who have already completed year one (1) BSc General at any accredited University for direct entry into second year.
- Furthermore, applicants in possession of year one (1) BSc General or equivalent, are required to have attained at least 40 BGCSE points or equivalent and must have obtained an average of at least 65% without re-sits or retakes in their BSc transcript.
- A-level holders are required to possess at least 2 A-level grades with a C or better in Mathematics, and in one of Physics or Chemistry or Biology.
- Diploma holders will also be considered on the relevance of their prior programmes of study to their programmes of interest.

The University reserves the right to ask prospective students to sit a pre-admission exam if required.

Please note that these are the only minimum entry requirements, and certain programmes may have additional entry requirements.

Information on additional requirements is available from the Admissions Office.

Point System

POINTS	GCE			GCSE			SENIOR CERTIFICATE			IB	
	A LEVEL/HSC	AS	COSC	NSSC OL/ SGCSE/ LGCSE	IGCSE	BGCSE	NSC	HG	SG	HG	SG
12	A									7	
11	B									6	
10	C	A					7	A		5	7
9	D	B					6	B		4	6
8	E	C	A	A	A*,A	A*,A	5	C	A	3	5
7		D	B	B	B	B	4	D	B	2	4
6		E	C	C	C	C	3	E	C		3
5			D	D	D	D	2		D		2
4			E	E	E	E	1		E		
0			F	F	F	F			F		

Grades	A*, A, B, C	D	E, F, U
	CREDIT	PASS	FAIL

A LEVEL/HSC	Advanced level/ High school certificate
HG	Higher Grade
SG	Standard Grade
IGCSE	International General Certificate of Secondary School
BGCSE	Botswana General Certificate of Secondary School
O-LEVEL	Ordinary Level
COSC	Cambridge Overseas School Certificate
GCE	General Certificate of Education
GCSE	General Certificate of Secondary Education
HIGSE	Higher International General Certificate of Secondary School Education
AS	Advanced Subsidiary
NSC	National Senior Certificate
IB-HG	International Baccalaureate- Higher
IB-STD	International Baccalaureate- Standard
NSSC	Namibia Senior Secondary Certificate
LGCSE	Lesotho General Certificate of Secondary Education
SGCSE	Swaziland General Certificate of Secondary Education

Due to the limited number of places available, meeting the minimum requirements does not guarantee a place. Final selection is made subject to the availability of places, academic results and other entry requirements where applicable.

INTERNATIONAL STUDENTS

BIUST is an exciting place to study and live at. As a home to international students from diverse countries, you will find the University hospitable and friendly to acclimatise easily.

BIUST INTERNATIONAL OFFICE

The University has established an International Office to offer non-academic support services and ensure that all international students follow the University and the government of Botswana immigration requirements prior to registration and arrival in the country respectively. The International Office creates a holistic environment which ensures a conducive learning environment for all international students. This is achieved by establishing and developing a range of learning, social, cultural and recreational opportunities that facilitate the full realisation of their potential for academic and personal growth. The office is dedicated to ensuring that the needs and interest of international students are well represented.

The International Office is located at the Administration Block, 2nd Floor, Office No. 206 - 210. Tel: +267 493 1225/28/33

HOW TO APPLY

Prospective International Students may download application forms from the website or request for them through admissions@biust.ac.bw

Applicants must submit the following:

1. Completed application form.
2. Proof of payment of the application fee (**BWP 200.00** for SADC residents and **BWP 400.00** for non-SADC residents)
3. A certified copy of your senior secondary school certificate or equivalent, accompanied (if not in English) by a certified official English translation.
4. Certified copy of valid Passport and Birth certificate
5. Certified copies of additional official documents (*e.g. post-school certificate, transcript, professional registration certificate, certifying letters from examining bodies, proof of change of surname, etc.*) where applicable.
6. For qualifications obtained in a non-English speaking country, a TOEFEL Internet based score of 60 or IELTS score of 5 is required.

Completed application form and supporting documents can either be scanned and emailed to admissions@biust.ac.bw or submitted through postal mail below;

Enrolment and Admissions Office
Botswana International University of Science and Technology
Private Bag 16
Palapye,
Botswana

VISA AND STUDY PERMITS REQUIREMENTS

- It is important that the admitted student satisfies the Botswana immigration requirements before arriving in the country.
- Students are advised to check with Botswana embassy in their respective countries if they need a VISA to enter Botswana. You can also visit www.gov.bw where you will get details on whether or not you need VISA to come to Botswana and other immigration requirements.
- As an International Student, once you have been accepted to study at BIUST, there are requirements for VISA and Residence (Study) Permit Application that must be prepared to apply with Botswana Immigration. The list of requirements for VISA and Residence (Study) Permit is provided below:

REQUIREMENTS FOR VISA APPLICATION

1. Fully Completed Immigration Application Form D *[available at Botswana Embassy where the application is to be submitted]*
2. Application fee of **BWP 500.00** (applicable to visiting students only)
3. Application letter
4. BIUST Admission letter or covering letter from the host institution.
5. Certified copy of passport *[page showing applicant picture, passport number, date of birth, expiry date]*
6. Two identical and recent passport size photos (White background)
7. Copy of sponsorship letter
8. Copy of travel itinerary

NB: All Official documents must be certified
Please take note that VISA to enter Botswana is applied for when one is still outside the Country.

REQUIREMENTS FOR STUDENT RESIDENCE PERMIT APPLICATION

1. Valid Passport *[valid at least for the duration of the programme of study]*
2. Certified copy of valid passport *[page showing passport number, date of birth and expiry date]*
3. Certified copies of birth certificate or identity card
4. Completed Immigration Application Form 15 *[forms are available at the immigration offices, Botswana Embassies or can be downloaded at www.gov.bw]*
5. Proof of payment of tuition fee *[deposit receipt for tuition fees]*
6. Study Permit fee of **BWP 1500.00** (payable to Immigration Office)
7. Proof of sufficient financial means to cover tuition fees, subsistence and incidental costs while in Botswana *[in the form of a bursary, sponsorship letter, or bank statement and/or support letter]*
 - ii. *If a student is sponsored by Parents or a Guardian, he or she must provide their Payslip and confirmation of employment from their employer.*
 - iii. *If the Parents or Guardian is staying in Botswana, their copies of residence permits must also be submitted.*
8. Medical Report *[forms are available at the immigration offices]*
9. Copy of the BIUST Admission letter or letter confirming enrolment stating the duration of the programme offered *[start and end date of the programme]*
10. Copy of the BIUST Student registration form
11. Two (2) identical and recent passport size photos *[background should be white]*
12. Students personal application letter *[should indicate the duration - start and end dates of the programme]*

The letter should be addressed to Regional Immigration Office, P O Box 692, Serowe

13. Certified copies of previous certificates attained
14. Cover letter from the BIUST International Office

NB: All Official documents must be certified
Only a valid passport will be accepted when processing a resident permit [Emergency Travel Documents (ETD) are not acceptable]

ARRIVAL INFORMATION

Upon your arrival in Botswana, you must be in possession of your valid passport, admission letter and other relevant supporting documents which might be requested by the immigration officials at the border.

Shuttle services and taxis are available at the airport to transport passengers to the Gaborone bus rank where you are to board a bus to Palapye. From the Palapye bus rank one can take a taxi to BIUST campus which is located about five kilometres away from the village.

For information regarding International Students go to www.biust.ac.bw and click on International Students page where you will see a whole range of services and products.

You may also contact the International Student Office on the following;

Ms Tebogo Kebonye

Tel: +267493 1233/25/28

Email: kebonyet@biust.ac.bw



2020-21 FEE STRUCTURE

FEE TYPE	DESCRIPTION	AMOUNT (BWP)
Application fee for Citizens/SADC	Nonrefundable and Subject to annual review	200 .00
Application fee for Non-residents	Nonrefundable and subject to annual review	400. 00
Late application fee for UG -Citizens/SADC	(Up to 14 days after close of applications)	350.00
Late application fee for UG-Non-residents	(Up to 14 days after close of applications)	900.00
Tuition fees:		
Undergraduate citizens/SADC per Academic Year	Fees Charged per credit	800 x 40cr = 32 000.00
Undergraduate non-SADC residents	Fees Charged per credit	1100 x 40cr = 44 000.00
Masters Sciences & Engineering - citizens/SADC		17 000.00
Masters Sciences & Engineering - non-residents		23 000.00
PhD Sciences & Engineering - citizens/SADC		15 000.00
PhD Sciences & Engineering - non-residents		16 000.00
Field work Fees/Day/Student		See Excursion Fee Schedule
Transcripts sent to 3rd parties		
i. Within Botswana		P100
ii. Elsewhere		P200
Remarking		300.00
Housing:		
Postgraduate - two semesters		10 000.00
Postgraduate - two semesters calendar year		13 000.00
Undergraduate - two semesters		5 500.00
Undergraduate - during holidays per night		150.00
Non student during holidays per night		P200
Student life fee		150.00 (becomes SRC budget)
Late registration fee - per day (up to 14 days)		20/day
Transcript fee		60.00
ID Card replacement fee		
i. First time		70.00
ii. Second time		140.00
Laundry fee per year		600.00

Banking Details: Stanbic Bank Botswana
 Account name: BIUST OPEX Current Account
 Account number: 9060003441445, Branch code: 064967
 Branch Name: Fairgrounds Swift code: SBICBWGX
 Please use your full name as reference.

EXCURSION FEE SCHEDULE

Excursion Fees (per programme, level of study and student)		
Programme of Study	Level of Study	Fees (BWP)
Chemical Engineering	year 2	4 516.00
	year 3	1 902.00
	year 4	4 516.00
	year 5	776.00
Materials & Metallurgical Engineering	year 2	4 516.00
	year 3	1 902.00
	year 4	4 516.00
	year 5	776.00
Civil & Environmental Engineering	year 3	539.00
	year 4	796.00
	year 5	776.00
Electrical & Electronics Engineering	year 3	1 216.00
	year 4	755.00
	year 5	977.00
Computer & Telecommunications Engineering	year 3	1 216.00
	year 4	755.00
	year 5	977.00
Mechanical & Energy Engineering	year 3	1 721.00
	year 4	648.00
	year 5	354.00
Mechatronics & Industrial Instrumentation	year 3	1 721.00
	year 4	648.00
	year 5	354.00
Industrial & Manufacturing Engineering	year 3	1 721.00
	year 4	648.00
	year 5	354.00
Mining Engineering	year 3	26 800.00
	year 4	954.00
	year 5	1 216.00
Geological Engineering	year 3	26 800.00
	year 4	954.00
	year 5	1 216.00

Environmental Science	year 2	8 912.00
	year 3	29 480.00
	year 4	5 409.00
Earth & Environmental Sciences	Year 2	20 460.00
	Year 3	29 480.00
	Year 4	8 912.00
Pure & Applied Chemistry	year 2	-
	year 3	2 087.00
	year 4	2 162.00
Forensic Science	year 2	
	year 3	2 087.00
	year 4	2 162.00
Geology	year 2	20 460.00
	year 3	29 480.00
	year 4	8 912.00
Biological Sciences & Biotechnology	year 2	-
	year 3	5 891.00
	year 4	2 891.00
Physics	year 3	6 316.00
	year 4	5 616.00
Computer Science & Software Engineering	Year 4	6 500.00
Information Systems & Data Management	Year 4	6 500.00
Pure & Applied Mathematics	Year 4	6 500.00
Statistics	Year 4	6 500.00



FACULTY OF SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES AND BIOTECHNOLOGY

The Department of Biological Sciences and Biotechnology offers one programme being;

i. BSc Biological Sciences and Biotechnology

BIOLOGICAL SCIENCES AND BIOTECHNOLOGY

Award: Bachelor of Science (BSc)

Duration: 4 Years



Introduction

Welcome to the Department of Biological Sciences and Biotechnology, Faculty of Sciences, BIUST. Welcoming you to our Department is also welcoming you to the science of the 21st century, Biology, a discipline which is now at the forefront in the effort to solve major global challenges. Biology is no longer a descriptive science that only describe the different life forms on earth. Today, biology is applying the principles of physics, chemistry, mathematics, computer science, and different engineering disciplines to solve biological problems and through that address major societal challenges. It is this multidisciplinary approach that makes biology the most exciting scientific discipline leading to a lot of new discoveries. To make use of its full potential for the benefit of society, biology needs smart and competent scientists. If you believe you are one of them come and join us and be part of this exiting field of study where big discoveries are happening constantly!

The 21st century is considered as the century of life sciences where exciting discoveries are happening constantly and exploitation of these discoveries for the benefit of society in different economic sectors is leading to the creation of jobs to millions and accelerating development. The application of scientific knowledge obtained through research in the biological sciences has enabled mankind to solve challenges in health, environment, agriculture, and industry. This in turn has led to the emergence of a new specialization known as biotechnology. After the first industrial revolution of the 19th century and the second technological revolution in the area of computers/electronics in the 20th century, many believe biotechnology is the third technological revolution of the 21st century.

Biotechnology is a multidisciplinary science that applies the principles of biology, chemistry, physics, engineering, medicine, mathematics and computer science to solve problems in health, agriculture, environment, and industry. Biotechnology aims at ensuring food and nutritional security for an ever-growing world population, discovery of new diagnosis and treatment methods in medicine, generation of new and novel industrial products from renewable resources, production of renewable energy and reduction of pollution, and remediation of the environment to make it safe for the present and future generations to live in comfortably.

In order to make use of the full potential of biotechnology, understanding basic biological principles is a prerequisite. Our goal at the Department of Biological Sciences and Biotechnology is, therefore, to equip our students with basic understanding of life in its different forms and to apply the acquired knowledge in developing bio-based processes and products for the benefit of society. Accordingly, the Department teaches fundamental knowledge and skills in the biological sciences aimed at understanding life in its different forms while our training in biotechnology builds on that knowledge and skill to enable students manipulate and exploit the biological systems in many fields of human endeavor.

Our program gives strong emphasis to sustainable utilization, management, conservation, and restoration of natural resources. To support our mission, BIUST offers a beautiful campus with new and state-of-the-art facilities for undergraduate and postgraduate research while the department has a team of experts specialized in broad areas of biological sciences and biotechnology.

Modules

The programme includes courses that cover Principles of Biology, Microbiology, Genetics, Cell Biology, Developmental Biology, Zoology, Biochemistry, Plant Sciences (such as Botany, Plant Development and Physiology), Molecular Biology, Bioprocess Engineering, Enzyme Technology, Protein Chemistry, Metabolic Engineering, Biotechnology (Environmental, Industrial, Animal and Plant Biotechnology), Immunotechnology, Tissue Culture, Research Methods and Ethics. Theory, case studies and practical applications of traditional and current content are offered to enhance perspective and encourage critical thinking and critical analysis.

The Department designed its programmes such that graduates are equipped with the necessary knowledge and skills that will make them ready for the job market. In addition, the programmes are designed in such a way that graduates with a BSc degree are ready for further training at MSc and PhD level in different specialization areas.

Career Opportunities

Manufacturing industry, health, agriculture, environmental protection, wild life and tourism, research institutes, and institutions of higher learning are a few of the areas of specializations and institutions where our graduates could join up on graduation.

The Department of Chemical and Forensic Sciences offers programmes leading to two Bachelor of Science degrees being;

- i) BSc Forensic Science
- ii) BSc Pure and Applied Chemistry.

FORENSIC SCIENCE

Award: Bachelor of Science (BSc)

Duration: 4 years



Introduction

What is Forensic science?

Forensic Science is the application of scientific and technical knowledge to the investigation of criminal incidents and the evaluation of forensic evidence in support of the legal process. The role of forensic scientists is to collect evidence, analyse it in the laboratory, and evaluate the results *for use in a criminal court*. As the first specialised programme of its nature in Botswana and one of few offered on the African continent, the degree offers a multidisciplinary curriculum encompassing the physical, life, biomedical, mathematical, computer and social sciences. As a result of the great progress made in the analytical and biological sciences (in particular, genetics), forensic science has increased in its' applicability in solving a wide variety of criminal cases, with the forensic scientist playing a key role. The core modules of the Forensic Science programme at BIUST therefore aim to help students understand the scientific principles behind the collection, analysis and evaluation of forensic evidence and how these are interpreted in the courtroom.

Why is this course for me?

If you have an analytical mind, are naturally curious and interested in appreciating the role that various branches of science play in the criminal justice system, then this programme will appeal to you. Throughout the programme, you will have hands-on experience in examining different types of forensic evidence from

various crime scene scenarios. You will be trained to critically evaluate the evidence, assess the relevance of the evidence and interpret the results for the court of law. You will also be exposed to various legal and forensic science experts to provide you with a holistic appreciation of the discipline. You will be given a grounding in both the theoretical and practical aspects of the multidisciplinary nature of forensic science making your abilities very attractive to prospective employers.

What will I study?

The current programme incorporates the entire ‘crime scene to court’ process: from the collection and packaging of evidence at the crime scene, it’s examination in the laboratory using various scientific methods and instruments, to the presentation of the scientific results in a mock court room session. As a result, you will be exposed to a wide variety of physical evidence such as firearms and ballistics, fingerprints and footwear marks, drugs of abuse, biological evidence, trace evidence, and questioned documents. You will also learn the principles behind crime scene investigation (CSI) and photography, law of evidence, ethics and quality assurance, digital forensics and wildlife forensics. Laboratory work, field

trips, mock crime scenes and mock court sessions play a key role in helping you develop practical skills necessary for a practicing forensic scientist.

Career and Graduate Study Opportunities

At the end of the course, graduates will have developed the ability to think critically and strategically about the interface between crime, forensic science and the law, thereby becoming effective forensic scientists. Graduates would have gained essential practical and analytical skills combined with strong written and verbal communication skills, problem-solving skills and the confidence to be a court-going forensic scientist. These transferable skills enable graduates to be suitable for a wide variety of different career paths such as in forensic science laboratories, crime scene investigation, the police force, customs and immigration, drug research, fire and accident investigation, environmental protection, national parks, and policy making. The multidisciplinary programme also ensures graduates are trained in analytical chemistry, biological sciences, computer sciences and quality assurance for alternative career options in the chemical industry, biomedical sciences and other analytical laboratories. Students interested in research can subsequently enrol for an MSc and PhD for specialised research.



PURE AND APPLIED CHEMISTRY

Award: Bachelor of Science (BSc)

Duration: 4 years

Introduction

What is Chemistry?

Chemistry is an important science and is also crucial for a thorough understanding of many science, engineering and environmental studies. Modern Chemistry plays a pivotal role in our understanding of structure and interactions of matter as well as achieving deeper insight into the formulation of new compounds, their identification, quantification and characterization. Chemistry retains the magic and mystery that fueled the *Alchemists* in the seventeenth century.



Why is this programme for me?

Everything around us (including us) is composed of basic building blocks that constitute matter. Chemists refer to these building blocks as *atoms*. There are only about 100 atoms known to exist. However, these building blocks can arrange themselves into an amazing number of different combinations that we call *molecules*. There are thousands of known molecules and new ones are discovered or made on a regular basis. Everything that you see (and can't see) is composed of *atoms* and *molecules*. So, the question "What is Chemistry?" would be better posed as "What isn't Chemistry?"

Career and Graduate Opportunities

The study of Chemistry at university gives one broad education and prepares one for entry into many careers, from the invention of new products and materials, to the control of the processes that lead to their production, to work that assures their quality. The following is a sample of areas that would employ a graduate of Pure and Applied Chemistry; University Teaching and Research, Agricultural Research, Medical Research, Forestry Research, Science Publishing, Biotechnology, Material and Chemical Manufacturing, Environmental Science Research and Health and Safety.

The Department of Earth and Environmental Sciences offers programmes leading to three Bachelor of Science degrees being;

- i) BSc Earth and Environmental Sciences
- ii) BSc Environmental Science
- iii) BSc Geology

EARTH AND ENVIRONMENTAL SCIENCES

Award: Bachelor of Science (BSc)

Duration: 4 years



Introduction

The Earth is a dynamic and active planet, as revealed by events including volcanic eruptions, earthquakes, tsunamis, fires and floods. To understand how our planet works, how it has evolved and what we know about its future, the ideas and principles of Physics, Chemistry and Biology are integrated in Earth and Environmental Sciences.

The understanding of the Earth and its processes is at the heart of many economic, social, and environmental issues; energy and mineral exploration; safe disposal of industrial and municipal wastes; preservation of ground water supplies; the choice of sites for development; the impact of climate change on our social and economic support systems and many others, all these issues that will become more complex as demands on the earth and its resources increase.

Why is this Course for Me?

There has never been a better or more important time to study Earth and Environmental Sciences. Increasingly, environmental legislation is forcing businesses to account for their contribution on environmental impact, and with many countries putting sustainability at the heart of their policies, there is a growing shortage of skilled personnel to manage resources sustainably for future generations. This programme will cover the importance of understanding earth systems (past, present and future); the integration of theoretical and practical investigation; a holistic and multidisciplinary scientific approach; the importance of spatial and temporal scale; the importance of the concepts of sustainability and sustainable development; the examination of resource use and environmental management.

What will I Study?

You start this programme by studying the basic sciences (Physics, Chemistry, Biology and Mathematical Sciences) and later a combination of relevant core and optional Earth Sciences and Environmental Sciences modules.

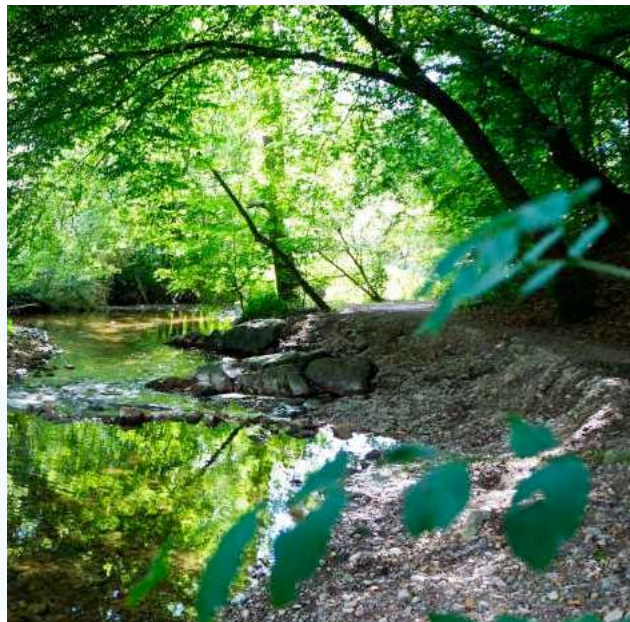
The Modules You Will Study Include:

- Atmospheric Physics and Chemistry
- Earth and its materials
- Earth surface processes
- Energy and Environment
- Environmental Geology and Waste Management
- Environmental Pollution and Remediation
- Global Climate and Environmental Change
- Geographic Information Systems
- Geology of Southern Africa and Botswana
- Hydrogeology and Water Resources
- Mineral Exploration and Economic Geology
- Palaeopedology and Quaternary environments
- Petroleum geology
- Remote sensing in Earth and Environmental Sciences
- Research methods
- Research project (final year)
- Sedimentology and Stratigraphy
- Soils and geomorphology
- Structural Geology and Field Methods

Career and Graduate Study Opportunities

This programme will equip you with the skills and knowledge necessary for careers in environmental, engineering and ecological consultancies; regulatory authorities and government agencies; industry and private companies; conservation and natural resource management and research; environmental impact assessment. The communication, numeric and IT skills gained will also equip you for business or education-oriented careers. Students may go on to postgraduate study, either at

Master's level, or at Doctorate level for those wishing to pursue an academic career.



ENVIRONMENTAL SCIENCE

Award: Bachelor of Science (BSc)

Duration: 4 years

Introduction

Environmental Science is a quintessential interdisciplinary scientific field with teaching and research goals of understanding Earth's dynamic history and processes that integrate the four terrestrial spheres: lithosphere, hydrosphere, atmosphere and biosphere for responsible stewardship of the Earth and her natural resources. Environmental Science provides a quantitative and qualitative approach to the study of human-environment interactions and their impacts as well as the concept of sustainability.

Why is this Course for Me?

Environmental scientists work on subjects like the understanding of Earth processes, evaluating alternative energy systems, pollution control and mitigation, natural resource management, and the effects of global climate change. Environmental issues almost always include an interaction of physical and biological processes with human impacts and development. Environmental Scientists bring a systems approach to the analysis of environmental problems. Key elements of an effective environmental scientist include the ability to relate space and time relationships as well as quantitative analysis.

What Will I Study?

The programme will offer you analytical and practical skills in a range of areas including pollution and control, ecosystems, urbanization, population dynamics, environmental management and the management of biodiversity.

The Modules You Will Study Include:

- Climate modelling
- Ecosystems ecology
- Environmental impact assessment
- Environmental law and policy
- Environmental microbiology
- Environmental pollution and remediation
- Global Climate & Environmental Change
- Introduction to Biophysical Environments
- Natural Resource Management
- Palaeopedology and Quaternary environments
- Remote Sensing & Geographic Information Systems
- Research methods
- Research Project (final year)
- Soils and geomorphology
- Waste management
- Water Resource and Hydrology

Career and Graduate Study Opportunities

A degree in Environmental Science will pave the way for many careers opportunities both in academia and industry. These include jobs in Ecology Sustainability, Green Living, Atmospheric Science, Environmental Chemistry, Nature Conservation, Tourism as well as management of contaminated sites (e.g. illegal dumping sites, abandoned mines, mine tailings, etc.). As many countries move toward cleaner energy choices, and sustainable development, Environmental Science is a career field that is poised to grow larger and stronger with each passing year.



GEOLOGY

Award: Bachelor of Science (BSc)

Duration: 4 years

Introduction

What is Geology?

The BSc in Geology includes the study of the Earth system, its continents, oceans, and its atmosphere. It encompasses the physical and chemical sciences and will give you a full understanding of the Earth's history, including the formation and evolution of landmasses through erosion and deformation. The more that is known about the Earth's materials, formation, and structure the better we can appreciate their use and abuse and preserve the planet. This understanding applies to economic, social, and environmental issues related to water, soil, oil, mineral and energy exploration; rehabilitation of mined areas, safe disposal of industrial and municipal wastes; preservation of groundwater supplies; the choice of sites for dams, nuclear power plants and high-rise buildings.

Why is this Course for me?

Mineral resources dominate the Botswana national economy (diamonds, copper/nickel and coal), and this will continue to be increased by diversification in terms of the types of minerals explored (e.g. gold, silver, uranium), gas production and geothermal capacity. It is very important that the backbone of the economy is maintained and enhanced through innovative and substantial downstream processing. In view of the commitment of Botswana to diversify its economy it will be more and more important to have graduates that can fully appreciate the earth system in its entirety. This programme will produce graduates who have the expertise to join the resources

sector in Botswana and elsewhere in the region, through the exploration and resource development of minerals, energy, and groundwater and surface water systems.

What will I study?

You start this programme by studying the basic sciences (Physics, Chemistry, Biology and Mathematical Sciences). Starting from the second year of the Geology Degree you will study a combination of core and optional geoscience modules including a winter semester dedicated to field mapping and reporting.

The Modules You Will Study Include:

- Earth and its materials
- Earth surface processes
- Engineering Geology
- Environmental Geology
- Geological Mapping
- Geology of Southern Africa and Botswana
- Geophysics and Exploration
- Geochemistry and Exploration
- Hydrogeology and Water Resources
- Igneous and Metamorphic Petrology
- Mining and Evaluation of Mineral Resources
- Mineral Exploration and Economic Geology
- Mineralogy and Mineral Microscopy
- Petroleum Geology
- Sedimentology and Stratigraphy
- Structural Geology and Tectonics
- Research methods
- Research project (final year)

Career and Graduate Study Opportunities

The programme allows graduates to become professional Geoscientists in a range of careers in Mineral and Petroleum Exploration, Mining and Quarrying, Geosciences Information Analysis, Hydrogeology and Engineering Consultancy. Students may go on to postgraduate study, either at master's level, usually with a specialised career path in mind, or at Doctorate level for those wishing to pursue an academic career. The communication, numeric and IT skills you will gain also make you a good candidate for business education-oriented careers.



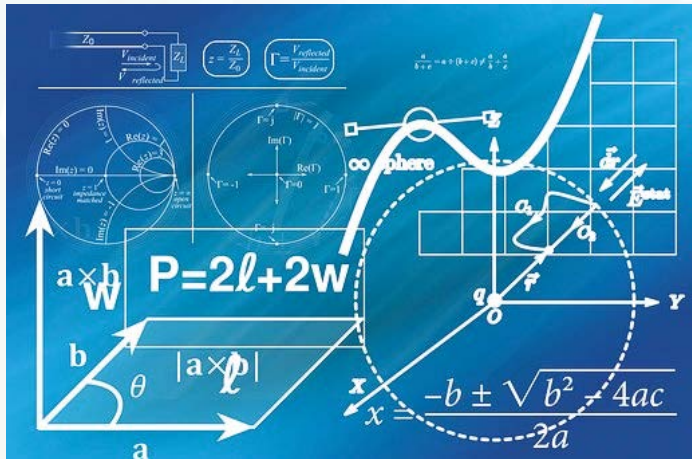
The Department of Mathematics and Statistical Sciences offers programmes leading to two (2) Bachelor of Sciences Degrees being;

- I. BSc Pure and Applied Mathematics
- II. BSc Statistics

PURE AND APPLIED MATHEMATICS

Award: Bachelor of Science (BSc)

Duration: 4 years



Introduction

Mathematics is “the Queen of the Sciences” which centres on concepts such as quantity, structure, space, and change, and the academic discipline which studies them. Mathematics has its roots many millennia ago in the systematic development of methods to solve practical problems. In the modern age the breadth of the applicability of Mathematics is immense not just in

the areas of Science, Technology and Engineering but in Medicine, Business, Commerce and Finance. The principles and methods of mathematics are used in these fields to model real world processes and activities.

Why is this Course for Me?

The applicability of Mathematics is expanding as more areas of human work and endeavour require the analytical model building approach of modern mathematics. This programme will produce graduates who have the expertise to work as pure mathematicians and applied mathematicians in engineering, science-based industry, commerce and in the public and private sectors in both research and education.

What Will I Study?

Mathematics is at the heart of problem solving and decision making in modern society and plays a crucial role in virtually all industries. A combination of pure and applied mathematics will provide the broad knowledge base and skills necessary for problem solving and the modelling of natural phenomena.

The Modules You Will Study Include:

- Algebra
- Analysis
- Complex Analysis
- Computational Mathematics
- Financial Mathematics

- Information & Coding Theory
- Linear Algebra
- Mathematics Modelling
- Mechanics
- Number Theory
- Numerical analysis
- Optimization

Career and Graduate Study Opportunities

Employers greatly value the intellectual skills and rigour in reasoning, the familiarity with numerical and symbolic thinking and the analytic approach to problem solving that well trained graduates in pure and applied mathematics have. Data and experience show that graduates in Mathematics usually find employment, in fields as diverse as teaching, research, industry, banking and insurance companies, commerce, as well as in other government agencies where judicious planning of resources and implementation of policies are required. For instance, in operations research, mathematicians use mathematical modelling, computer software or other analytical approaches, to examine and analyse systems and operational procedures that will be used in developing strategic policies and in decision making. Operations research is particularly useful in military operations. Students may go on to postgraduate study, either at Master's level, usually with a career path in mind, or at Doctorate level for those wishing to pursue an academic career.

STATISTICS

Award: Bachelor of Science (BSc)

Duration: 4 years



Introduction

Statistics is the Science of learning from data. As a discipline, it is concerned with the collection, management, analysis, and interpretation of data, as well as the effective communication and presentation of results of the analysis. Statistics is the basis for the quantitative reasoning necessary for making advances in the Sciences, Agriculture, Medicine, Industry and for making business and public policy decisions.

Why is this Course for Me?

The programme in Statistics will provide you with the necessary skills and tools in quantitative reasoning to extract information intelligently from the vast quantities

of data generated in almost all spheres of human activity in the modern world. If you are inclined towards mathematical reasoning, then Statistics is an option for you.

What Will I Study?

The programme in Statistics will provide you with a sound and broad knowledge, offering skills in rational decision making, data analysis and modelling of random phenomena.

The Modules You Will Study Include:

- Biostatistics,
- Experimental Design
- Industrial Statistics
- Mathematical Foundations: Calculus and Linear Algebra
- Mathematical Statistics
- Probability
- Statistical Methods
- Survey Sampling

Career and Graduate Study Opportunities

One advantage of working in Statistics is that you can combine your interest with almost any other field in science, technology, education or business.

As a Biostatistician, you can work in the field of Health, Medicine and the Biological Sciences, using your statistical skills in the following areas: Animal Health, Clinical Trials, Epidemiology, Genetics, Pharmacology, Public Health, Ecology, and Forestry. Statisticians also work in Business and Industry - Agriculture, Information Technologies, Engineering, Finance, Risk Assessment, Insurance, Manufacturing, Marketing, Quality Improvement and Reliability.

Your statistical skills can also find you work in various Government Departments, Research Institutions and NGOs that are involved in sample surveys and in monitoring and evaluation. Students may go on to postgraduate study at the Masters, usually with a career path in mind or at the Doctoral level for those wishing to pursue an academic career.



The Department of Computer Science and Information Systems offers programmes leading to two (2) Bachelor of Sciences Degrees being;

- I. BSc Computer Science and Software Engineering
- II. BSc Information Systems and Data Management

COMPUTER SCIENCE AND SOFTWARE ENGINEERING

Award: Bachelor of Science (BSc)

Duration: 4 Years



Introduction

Computer Science is the study of computational systems involving designing, building, evaluating performance of computer hardware and software. It also involves thinking both in abstract and concrete terms. It spans theory and practice through programming languages and the development of computing solutions to our everyday life's problems. The necessities of the programme include designing and analysing relevant algorithms and/or application software.

Computer Science essentially covers the systematic study of the structure, processing, storage, communication and access of information however it is represented in the memory of a computer system. It has a wide range of specialities too including computer architecture, high performance computing, software systems, graphics, artificial intelligence and machine learning, computational science, software engineering, computer systems and networks, security and forensic computing, database systems, human computer interaction, vision and graphics, formal methods and automata theory, bioinformatics, and simulation of complex societal and systems situations. The programme also has strong connections to other science and engineering disciplines.

Why Is This Programme for Me?

Choose a computer science degree, and you will be at the forefront of the next greatest technological innovations. To study Computer Science means being in the lead in positively changing the world and the way we live. It opens doors to many opportunities since its transformations

manifest to every other discipline. Its manifestations indirectly affect areas such as medicine, business, law, physical and life sciences therefore this means Computer Sciences related careers are available in different discipline altogether. The computation power of computers has been increasing exponentially over the years thereby allowing us to address problems that seemed intractable only a few years ago. This power is anticipated to keep increasing allowing computer scientists to solve even bigger problems. Therefore, the relevance of computer science is ever increasing in our lives and this will remain so in the coming years. Further the program readies you to further your studies to Masters' or PhD.

Computer Science equips the graduate with knowledge of the following areas where they can specialize: Applied Mathematics, Digital Image/ Sound, Artificial Intelligence, Microprogramming, Bioinformatics, Networks and Administration, Cryptography, Ontology, Robotics and Drones Protocol Development, Computer Graphics, Simulation and Modelling, Parallel Programming and High-Performance Computing, and Mobile Development.

What Will I Study?

Computer Science is a discipline that has grown to be the backbone of a functional society proving pivotal to medicine, biology, entertainment, business, banking, sociology to archaeology.

The Modules You Will Study Include

- Computer Architecture
- Databases
- Data Communications and Networks
- Foundations of Computation
- Human Computer Interaction
- Major Project (to be done in the fourth year in two semesters)
- Operating Systems
- Procedural and Object-Oriented Programming
- Professional Issues and Ethics
- Software Engineering

Career and Graduates Studies Opportunities

Our graduates' knowledge and skills represent principles which will outlast today's technology, making them highly wanted after by industry and commerce alike. Career opportunities exist in a range of technology industries or visually every industry that relies on technology to develop products or provide technological services. Popular **computer science careers** include: Software Engineers, Programmers, System Administrators, Network Engineers and many more. The CS graduates can also continue at the PG level, as the department has MSc and PhD programmes in Computer Science.

INFORMATION SYSTEMS AND DATA MANAGEMENT

Award: Bachelor of Science (BSc)

Duration: 4 Years



Introduction

Information Systems encompasses a multi-scientific discipline which addresses a broad range of strategic, managerial, and operational activities utilised in the gathering, processing, storing, and distributing of information and ICT in society and organisations. The utilisation of information systems attests to be very evident nowadays because no organisation can work without having access to these systems – be it a governmental agency, a hospital or an enterprise. There are various types of information systems: transaction processing systems, decision support systems, expert systems, knowledge management systems, learning management systems, geographic information systems, etc.

Why Is This Programme for Me?

If you are not an exactly computer geek, but a peoples person, who enjoys interacting with others and want to improve your social skills; if you want to start your own business and become a technopreneur or to join a IT prospering company which puts emphasis on communicating with their customers, stimulated with personal freedom to explore and experiment and build confidence and shape opinions - then the IS Programme is for you. The programme will gear you not only to acquire industry standard programming skills but will also be a savvy in improving organisational processes and to exploit opportunities created by new technological innovations. It will enable you to understand and address information requirements, to designing and manage enterprise architecture, to identify and evaluate solution and sourcing alternatives, to secure data and infrastructure, and to manage IS projects.

What Will I Study?

You will comprehend the essential principles which support knowledge management systems, networks and the software development process. Our modules are distributed between two main areas: (1) IS-specific knowledge and skills and (2) organisational/managerial knowledge and skills. You will also be given an opportunity to explore different application domains of IS by taking elective modules from different departments within BIUST.

The modules you will study include

- Business Process Modeling
- Databases
- Data Communications and Networks
- Foundations of Computation
- Human Computer Interaction
- ICT and Society
- Information Management
- IT Infrastructure
- Major Project (to be done in the fourth year in two semesters)
- Operating Systems
- Professional Issues and Ethics
- Programming
- Software Engineering
- Web Design and Development

Career and Graduate Study Opportunities

Information Systems is playing an ever-growing role in all aspects of today's life, you're highly likely to find your IS skills in high demand in many different industries although, obviously, most graduates go into roles within the industry. As Information Systems professional you can work in a broad range of domains which include; business, health care, government, and non-profit organizations. Graduates from our programme can choose any of the following specialised professional paths: Business Analyst, Database Administrator, IS Manager, Network Engineer, Systems Analyst, Systems Developer, ERP Specialist, Project Manager, IS/IT Auditor, SEO Specialist or Information Architect. We also offer Master's and PhD programmes to those who would like to pursue an academic career.



DEPARTMENT OF PHYSICS AND ASTRONOMY

The Department of Physics and Astronomy offers one programme being;

i) BSc Physics

PHYSICS

Award: Bachelor of Science (BSc)

Duration: 4 years



Introduction

Physics and Astronomy combine the study of the imperceptibly small scales of the quantum world with the large and often difficult to comprehend distances to stars and remote galaxies. Our goal as physicists is to understand the physical world by confronting theory with experiment with the aim of unravelling the fundamental laws that govern the Universe. This process often leads to useful technological applications in sectors related to energy, health, nutrition security, telecommunications and transport. Physics forms the basis of many other disciplines including astrophysics, biophysics, econophysics, geophysics, nanotechnology and physical chemistry. Moreover, physicists have been instrumental in developing the World Wide Web, investment models on the stock exchange, as well as medical techniques for diagnosing and eliminating certain diseases. They have also developed a theoretical framework to describe the evolution of the Universe from the big bang to the present day.

Why is this Course for Me?

An undergraduate course in Physics develops advanced analytical, communication, quantitative and technical skills which are applicable to virtually any field. Furthermore, the Physics programme will develop your IT and personal skills with a number of scenarios requiring teamwork. Using your unique skill set will allow you to make a highly valued contribution to solving the many open theoretical questions in modern physics or real-life challenges for promoting socio-economic and technological development in Botswana. An integral part of the BSc Physics programme is Astronomy and

Astrophysics courses which place graduates in a good position to adapt to the growing, permanently changing and a highly competitive environment of the Square Kilometre Array (SKA) project in Botswana. Essentially, the project requires highest qualities of management, combined with a special knowledge of the various key areas of Astronomy.

What Will I Study?

The programme is designed to give students a rigorous applied, experimental and theoretical foundation in classical and modern physics. Students will also learn how to code in the Python programming language as well as gain a grounding in astronomy relevant to Botswana's involvement in the Square Kilometre Array Project. The programme is designed to give students a solid understanding of the nature of the universe, including the latest discoveries and developments, as well as principal challenges in Space Sciences.

The modules you will study include:

- Astronomy & Astrophysics
- Classical Mechanics
- Computational Physics
- Electromagnetism and Waves
- Electronics & Applications
- Laboratory Physics
- Nuclear Physics and Applications
- Quantum Mechanics
- Solid State Physics
- Thermal and Statistical Physics
- Waves and Optics

A final year Physics research project is an integral part of the BSc Physics programme. Here, each student carries out research under the supervision of an academic within the department. Students will master very critical skills of conducting research, report writing, as well as presentation of scientific concepts.

Career and Graduate Study Opportunities

A Physics degree provides a pathway into a wide variety of exciting and rewarding careers across the Science, Technology, Engineering and Mathematics spectrum. These include Education (both basic and tertiary); Energy companies; Diagnostic and research laboratories; the banking industry; government agencies; mining, engineering and manufacturing companies.

Self-employment is also a potentially lucrative avenue in an emerging economy such as Botswana. The degree will also lead to opportunities for higher education locally, regionally or internationally, which is an excellent chance to visit other countries and be exposed to alternative ideas and practices. *Study Physics for countless opportunities in Science and other fields!*





FACULTY OF ENGINEERING AND TECHNOLOGY

The Department of Civil and Environmental Engineering offers one programme being;
i. BEng Civil and Environmental Engineering

CIVIL AND ENVIRONMENTAL ENGINEERING

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Introduction

The Department of Civil and Environmental Engineering offers Bachelor of Engineering Degree in Civil and Environmental Engineering. This is a five-year degree programme providing students with detailed courses in structures, construction materials, geotechnics, water and wastewater management, environmental engineering and transportation.

The department is committed to produce high quality engineers for the Civil and Environmental engineering industry through excellent education, research and partnership with the industry. The programme is quality assured by the Botswana Qualification Authority and a well-established advisory board made from professional civil engineers in the field.

Why is this Course for Me?

Civil engineering is arguably the oldest engineering discipline and continues to provide the largest employment world-wide due to the high demand of the much-needed construction industry. Civil engineers literally build nations through construction and maintenance of large and most essential infrastructures such as roads, bridges, railway lines, buildings, dams, water and wastewater treatment and supply systems.

What Will I Study?

Primary disciplines in civil engineering are structures, construction materials, geotechnics, transport, water and environmental engineering. This programme will give you the theory and practical part of these disciplines that are well backed by the fundamentals of science and engineering such as mathematics, chemistry, physics and mechanics of materials. You will also be provided with soft skills that allow you to perform in the industry such as professional ethics, construction management and entrepreneurship skills.

Career and Graduate Study Opportunities

There is no fixed or standard career path for a Civil Engineer. In Botswana you can join the vast construction industry, consulting industry, Government Departments, Parastatals and the mining industry. You can also opt to further pursue your learning by joining the postgraduate programme at BIUST which will give you the opportunity to enter the academic world and open your career path even wider.

The Department of Civil and Environmental Engineering offers MSc and PhD degrees in all fields within the department such as water, environmental engineering, structures, materials, transportation and geotechnics. The primary objective of the post graduate programme is to conduct intense research that is based on the fundamentals of civil and environmental engineering to address national problems and to provide high level human resource for the industry.

Research opportunities

A wide range of researches are conducted at both undergraduate and postgraduate levels. These include researches on the treatment of wastewater for reuse, water loss investigations, use of fly ash for building purposes, solid waste management, use of wastewater for irrigation, measuring the pore water pressure in Kimberlite tailings, stability analysis of tailings dams, fly ash stabilisation of black cotton soil, modelling of pavement performance, fly ash modified tiles, stabilisation of sand with fly ash.



DEPARTMENT OF CHEMICAL, MATERIALS AND METALLURGICAL ENGINEERING

The Department of Chemical, Materials and Metallurgical Engineering offers programmes leading to two (2) Bachelor of Engineering Degrees being;

- I. BEng Chemical Engineering
- II. BEng Materials and Metallurgical Engineering

CHEMICAL ENGINEERING

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Introduction

The Bachelor of Engineering (BEng) degree in the Department of Chemical, Materials and Metallurgical Engineering at the Botswana International University of Science and Technology is unique in many respects. Firstly, the knowledge areas combining biology, chemistry, mathematics and physics create a sound scientific foundation for engineering students. Secondly, core modules offered in the early stages drawn from various engineering programmes give the students some interdisciplinary flair. Thirdly, the two programmes offered under one umbrella give students sufficient latitude for career options. Holders of the two degrees offered namely; BEng Chemical Engineering and BEng Materials and Metallurgical Engineering are widely sought after in industries in both developed and emerging economies.

Chemical engineers are principally involved in the production of a wide range of chemicals and materials such as soaps, dyes, polyethylene, detergents, paper, fertilizers, cement, bricks etc., and foodstuffs such as cooking oil, margarine, beverages and pharmaceuticals as well as petroleum products. They are also involved in processes to produce potable water, cars, steel, mineral resources processing, production of energy, textiles, beverages, waste processing and minimization. In addition, chemical engineers address environmental impacts such as water, soil and air pollution arising from the process industries and human activities.

Chemical engineers design processes, build and manage chemical operations and ensure efficiency of production by intelligent control and optimization of physical, thermal and chemical parameters. Chemical engineering principles address grand global problems such as: energy systems, carbon mitigation, water management, health care, medicine systems engineering, urban processes and systems, bioengineering, biomedical and industrial biotechnology applications.

Why is this Course for me?

The need to address climate change and develop industrial processes that would address the growing need for employment, sustainable resource utilisation, food and energy security, novel health care products and environmentally friendly materials is a global challenge. If you are looking for a programme that would equip you with the skills and knowledge to address these challenges, then chemical engineering is a course for you.

What Will I Study?

You would be taught courses that would enable you to develop, design, operate and control processes for the manufacture of a wide range of products such as chemicals, pharmaceuticals, plastics, petroleum products etc. In addition, you would also be introduced to courses that address mitigating environmental pollution, entrepreneurship, business management and process economics.

You would also have an opportunity to undertake work integrated learning during the second semester of your fourth year to enable you to apply the engineering principles you have learnt and prepare you for the work environment.

The modules content

For the first two years of study, students will study basic subjects that include inter alia, mathematics, physics and chemistry, which form the building blocks for an engineering career. The core chemical engineering courses covered in the curriculum include the following:

- Bioprocess Engineering
- Chemical Engineering Thermodynamics
- Chemical Reaction Engineering
- Environmental Process Engineering
- Heat and Mass Transfer
- Unit Operations and Separation Processes
- Plant and Equipment Design
- Process Control and Instrumentation
- Process Engineering Principles

Career and postgraduate opportunities

The course opens the door for postgraduate studies and a wide range of careers in industry, banks, government, consultancies, business, and R&D centres. Career opportunities for chemical engineers are found in chemical and petroleum processing plants, metallurgical and material processing plants, food and beverage industries, pharmaceutical plants, biotechnology and agro-based industries such as fertilisers, pesticides and veterinary products manufacture. Careers can be diversified to other associated functions such as energy utilisation, environmental protection, health and safety, disposal of hazardous waste, process control and quality management.

MATERIALS AND METALLURGICAL ENGINEERING

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Materials engineers are essentially involved in the design and selection of materials based on the physical and mechanical properties desired for engineering applications. Appropriate materials are required for specific conditions. Engineering materials broadly include, metals, polymers, ceramics, including mixtures such as metallic alloys and composites. Sound knowledge of strength of materials and material behaviour when subjected to thermal and mechanical stresses is the hallmark of a materials engineer.

Metallurgical engineers specialise primarily in metals and their alloys. The spectrum of metallurgical engineering stretches from minerals processing, metal extraction and refining through to alloying and forming into shapes for use. The profession employs physical and scientific principles to concentrate minerals, to extract and refine metals, and to develop alloys of superior mechanical properties.

Why is this Course for me?

Humankind has revolved around the discovery, development and application of materials. Advances in telecommunication, aerospace, space exploration, bio-medical and other hi-tech disciplines have been possible because of engineers have availed suitable materials with specific properties for use. Through this programme, you can join in to carry forward the work that great engineers that came before you did. As demand for superior materials continues, so will the need to accelerate the development of materials with properties that can be stretched to their very limits. This is indeed a programme that appeals to students who wish to play a key role in a diversity of industries ranging from primary production to hi-tech material processing.

What Will I Study?

The increasing sophistication in modern technology demands graduate engineers ready to apply their creativity to help address societal problems. Students will study varying courses that develop skills and competencies in extraction and processing of minerals and metals to produce materials that shape the technology-driven world.

The modules content

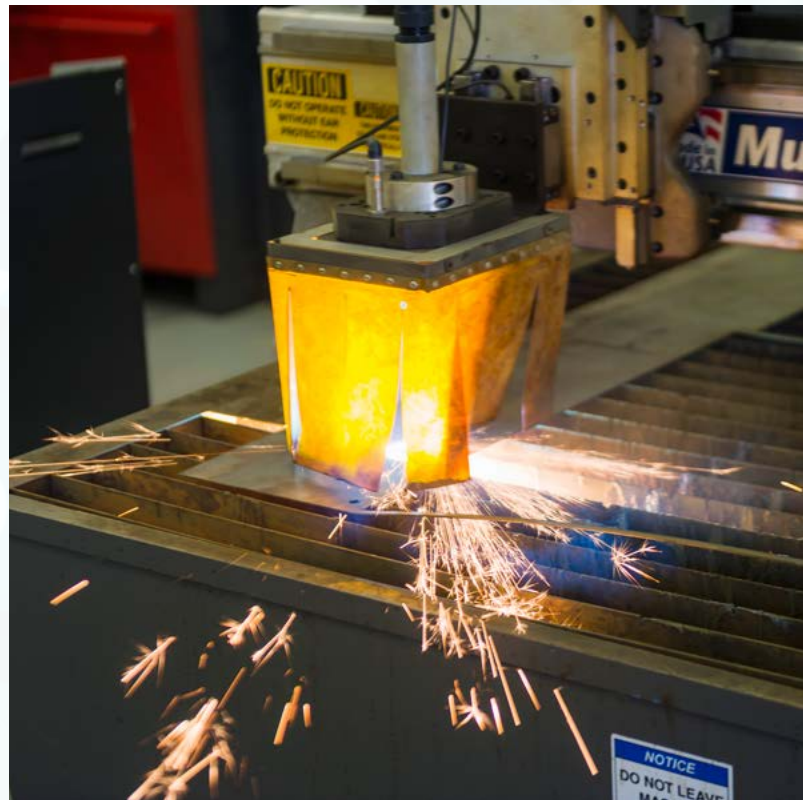
For the first two years of study, students will study basic subjects that include inter alia, mathematics, physics and chemistry, which form the building blocks for an engineering career. Furthermore, they will be introduced to basic process engineering principles, and materials science. Other courses include:

- Advanced Materials and Nanotechnology
- Chemical and Metallurgical Engineering Thermodynamics
- Extractive Metallurgy
- Green Energy Engineering
- Heat and mass transfer
- Mechanical Metallurgy
- Metallurgical Engineering Design
- Polymer and composite technologies
- Process Control and Instrumentation

Career and postgraduate opportunities

The course opens the door for postgraduate studies and a wide range of careers in industry, mines, government, consultancies, business, and R&D centres. Career opportunities for materials and metallurgical engineers are found in mineral and materials processing plants, metal refining, metal forming and alloying industries. Further career opportunities are found in the production of bio-medical materials, manufacture of polymeric materials, ceramics and composites. Careers can be

diversified to other associated functions such as energy utilisation, environmental protection, health and safety, disposal of hazardous waste, process control and quality management.



DEPARTMENT OF ELECTRICAL, COMPUTER AND TELECOMMUNICATIONS ENGINEERING

The Department of Electrical, Computer and Telecommunications Engineering offers programmes leading to two (2) Bachelor of Engineering Degrees being;

- I. BEng Computer and Telecommunications Engineering
- II. BEng Electrical & Electronics Engineering

COMPUTER AND TELECOMMUNICATIONS ENGINEERING

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Introduction

The driving force in our contemporary society is the engineer's ingenuity. There are only a few aspects of modern society that are not affected by computers and telecommunications. Computer Engineering has ushered in a lot of modern conveniences from microwave ovens, mobile phones, high and ultra-definition televisions, entertainment and automated systems, wireless high-speed internet technologies that are controlled by computer systems. Communicating information over short and long distances over wired and wireless networks, and the security of such data, networks, power lines and electrical distribution is central to engineers who specialise in Computer and Telecommunications Engineering.

Why is this Course for Me?

As the world moves further into knowledge economy, the demand for high level qualifications has increased exponentially. The computer and telecommunications revolution has particularly impacted economic growth in Africa and the world over. In order for Botswana, and the other developing countries to compete with developed countries, computer and telecommunications engineering offer catalytic properties to speed up the process. The course will equip students with the concepts, theories and principles underlying the science and mathematics of electrical, computer and telecommunications engineering for a broad range of modern technologies.

What Will I Study?

Computer and Telecommunications Engineering have the first two years common with other Engineering disciplines. Students will learn the tools such as computer languages and software, computer systems and architectures, networking and security, wired and wireless and mobile communication systems and networks, Signal processing technologies, convergence and broadband technologies.

The Modules You Will Study Include;

- Analogue and Digital Electronics
- Analogue and Digital Communications
- Automation and Control systems
- Computer Networks and Security
- Data Structures and Algorithms
- Digital Signal Processing
- Digital Systems Design
- Electronic Circuit Design and Analysis
- Engineering Mathematics
- Fundamentals of Communication Theory
- Microcontrollers
- Microprocessors and Microcontrollers
- Mobile and Satellite networks & Infrastructure
- Transmission and Switching Engineering

Career and Graduate Opportunities

Whether one aspires to be an entrepreneur, an engineer, a social scientist, an economist or a banker, then Computer and Telecommunications Engineering will equip you with the necessary and crucial skills. There has never been a greater need for Computer and Telecommunications Engineers in high demand and well-paying industries. Engineers can work in research and development (R&D) centres, creating the products of tomorrow to help make modern life convenient. Some of the potential careers include consumer and professional electronics, robotics, defence, broadcasting and telecommunications and the information technology sectors.

ELECTRICAL & ELECTRONICS ENGINEERING

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Introduction

This is a 5 year programme which is concerned with the study and application of electricity, electronics, and electromagnetism. During the first year, the students are introduced to mathematics, physics, writing skills, and computing. In the subsequent years, the students learn basic electrical and electronic concepts. Towards the end of the programme, fine points of various areas of Electrical and Electronics Engineering are investigated.

This programme deals with power generation and distribution on a large-scale. It is a discipline that uses scientific knowledge of the behaviour and effects of electrons to create components, devices, systems or equipment that use electricity as part of their source of power.

Why is this Course for Me?

Electrical and Electronics Engineering offers solutions to some of the most critical problems facing the world today such as energy shortages and control, environmental impact, constant need for information security and informatics.

What Will I Study?

You will study varying levels of courses in Mathematics, Energy Systems, Embedded Systems, Power Systems, Sustainable Energy, Computer Programming, Digital Design and Signals and Electromechanical Systems with increasing complexity as you advance in the programme.

The Modules You Will Study Include:

- Analogue and Digital Electronics
- Automation and Robotics
- Digital Signal Processing
- Digital Systems Design
- Electronic Circuit Design and Analysis
- Electrical Circuits & Devices
- Electric Machines and Control
- Electric Power Systems
- Electromagnetics
- Electromechanical Energy Conversion
- Micro-Controllers & Embedded Systems
- Micro-electronic systems
- Power Transmission and Distribution
- Sound state electronics

Career and Graduate Study Opportunities

The Electrical and Electronics programme grooms students to have the flexibility to be whatever they choose to be in later life. Electrical and Electronics Engineers are involved in a wide variety of technology ranging from huge global positioning systems which can pinpoint the location of a moving vehicle to gigantic electrical power generators. These Engineers are responsible for designing, developing, testing as well supervising the production of electrical and electronic equipment and machinery. Broadcast and telecommunication systems, electric motors, controls of machinery, lights and wiring in building complexes, vehicles, aircrafts, radar and navigation systems, power generation, control and transmission devices which are used by electric utilities are all examples of equipment built by these engineers.



The Department of Mining and Geological Engineering offers programmes leading to two (2) Bachelor of Engineering Degrees being;

- I. BEng Geological Engineering
- II. BEng Mining Engineering

GEOLOGICAL ENGINEERING

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Introduction

Geological Engineering is the practical application of principles, concepts and techniques of the earth sciences to provide sustainable engineering solutions to human needs. Geological Engineers help find the best ways to use earth's resources to solve technological problems in an environmentally sustainable manner. They deal with mineral resource exploitation and management, environmental and geotechnical design involving rock, soil and water interaction, and the non-destructive or geophysical investigation of the subsurface environment for engineering purposes.

Why is this Course for Me?

Geological Engineering is a field oriented practical discipline. It will expose students to methods and techniques to protect the earth while still exploiting it through careful industrial practices. This is of vital importance given the extensive mining activities and construction works in Botswana, the surrounding region and globally.

What Will I Study?

You will study fundamentals of Geological Sciences and Engineering. The programme emphasizes the integration of Geosciences and Engineering with applications in areas such as construction, foundation design, site selection, resource production, geo-hazard assessment and mitigation, waste disposal and restoration of pollution sites.

The modules you will study include:

- Applied Hydrogeology
- Engineering Geology
- Exploration geology
- Foundation Engineering
- Geographic Information Systems
- Geotechnical Engineering
- Mineralogy & Petrology

Career and Graduate Study Opportunities

You can look forward to a secure and well-paid career in a wide variety of organisations including mining, exploration and construction companies, consulting firms, government agencies, research laboratories and environmental resources agencies. The programme also prepares you for eligibility to study for postgraduate degrees in Geological Engineering or related fields.



MINING ENGINEERING

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Introduction

Adequate supply of mineral products at acceptable prices is indispensable to modern industrialization. Mining Engineering involves the practice, theory, science, technology and application of extracting and processing of mineral resources economically and in a sustainable manner. It also includes processing of minerals for value addition purposes.

Why is this Course for Me?

The course is designed to produce high quality mining engineers who are capable of applying engineering and technology to plan, design, operate and manage mining and mineral projects anywhere in the world in an

environmentally friendly manner. Graduates are trained to carry out professional duties using their knowledge of sound engineering and environmental technology, innovative and entrepreneurial skills to maximise returns on investment.

What Will I Study?

Mining Engineering is an interdisciplinary field that includes elements of mining, geological, civil, mechanical, materials and mineral engineering. Students will learn how to carry out mining efficiently and safely while ensuring sustainability and minimal environmental impact.

The Modules you will study include:

- Explosives & Rock Fragmentation
- Materials Handling
- Mine Health & Safety
- Mine Planning and Design (Surface & Underground Mines)
- Mine Ventilation
- Soil & Rock Mechanics
- Surface and Underground Mining Methods

Career and Graduate Study Opportunities

You can look forward to a secure and well-paid career in a dynamic and challenging industry in mining and exploration regions around the world, academia and the investment banks. The programme also prepares you to be able to undertake postgraduate studies and research.



DEPARTMENT OF MECHANICAL, ENERGY AND INDUSTRIAL ENGINEERING

The Department of Mechanical, Energy and Industrial Engineering offers programmes leading to three (3) Bachelor of Engineering Degrees being;

- I. BEng Industrial and Manufacturing Engineering
- II. BEng Mechanical and Energy Engineering
- III. BEng Mechatronics and Industrial Instrumentation

INDUSTRIAL AND MANUFACTURING ENGINEERING

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Introduction

It is concerned with the development, improvement, implementation and evaluation of integrated systems of people, money, knowledge, information technology,

equipment, energy and materials. It uses mathematical, physical and social sciences together with the principles and methods of engineering design to specify, predict, and evaluate the results to be obtained from such systems or processes. Its underlying concepts overlap considerably with certain business-oriented disciplines such as operations management, but the engineering side tends to emphasise extensive mathematical proficiency and usage of quantitative methods.

Why is this Course for Me?

Industrial and Manufacturing Engineering combines fields of Mathematics, Materials Science & Engineering; Materials Processing/Manufacturing Technologies; Design Engineering; Business & Human Resources Management; Computing and Social Sciences. The programme seeks to emphasise a broad skills and knowledge set necessary to provide practical solutions to industrial and technological problems across power generation, mining, equipment maintenance and repair, manufacturing, defense, logistics and services industries in Botswana and the Southern African Development Community (SADC) region.

What will I study?

You will study courses in engineering mathematics, statistics, operations research, human factors and ergonomics, production planning, advanced materials & manufacturing processes, engineering design for

manufacturing processes; engineering economics, business management, quality control and simulation & modelling of engineering systems. The skills set you will acquire will enhance the use of mathematical models and methods to identify and come up with solutions for a range of technical and scientific problems across a range of industries including manufacturing.

The Modules You Will Study Include:

- Advanced Manufacturing
- Design for Manufacturing
- Engineering Ethics & Law
- Engineering Mechanics
- Entrepreneurship
- Industrial Statistics & Quality Management
- Logistics & Supply Chain Management
- Managing Business, People & Money
- Manufacturing Technologies
- Material Science & Engineering
- Production Methods and Planning
- Project Management
- Reliability and Maintenance Engineering
- Work study and Ergonomics

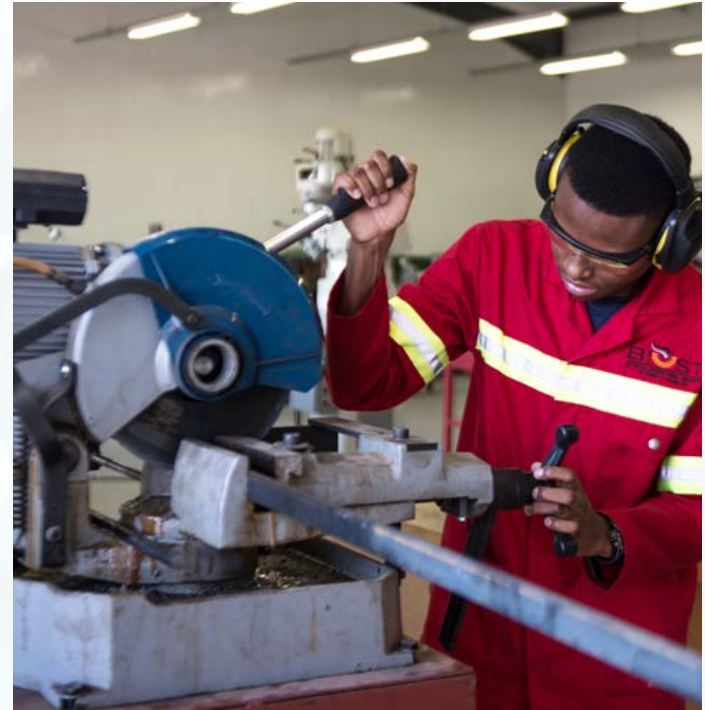
Career and Graduate Study Opportunities

A graduate from this programme can expect to get a job in all types of industries. They can join private companies, private consultancy firms, manufacturing industries, automobile, aeronautics, fabrication, designing, government organisations and research institutions etc. They can also work as Production and Operations Engineers, Quality Assurance and Control Engineers, Manufacturing/Process Engineers, Maintenance/Repair Engineer, Supply Chain Engineers, Purchase Engineers, Technical Sales Engineers, Production and Industrial Engineers. They can also pursue higher degrees in the discipline.

MECHANICAL AND ENERGY ENGINEERING

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Introduction

This programme is designed to prepare mechanical and energy engineering graduates for needs of modern society in the disciplines. Engineers are central to providing sustainable, smart solutions to complex mechanical and energy challenges. They are involved in the delivery of new forms of power generation and production of machines and systems for automotive, energy, heating and cooling

systems. Students will be equipped with fundamental theoretical principles and skills to design, maintain and deliver complex engineering solutions including power plants, heating, ventilation and air conditioning (HVAC), heat exchangers, fluid machineries, conventional energy plants using coal, oil and gas and renewable energy plants such as biomass, biodiesel, solar and wind energy systems.

Why is this Course for Me?

It is an opportunity to study a multidisciplinary programme that addresses today's rapidly growing needs for sustainable energy generation, green technology, production of innovative devices and new forms of materials for manufacturing, automobiles and building services. It also prepares graduates for a stimulating career in reliability and maintenance engineering.

What will I Study?

You will study implementation of creative solutions to problems in energy provision, new materials like composites, manufacturing, maintenance, energy management, power distribution and conservation.

Modules you Will Study Include;

- Applied Thermodynamics
- Building Services
- Control Engineering
- Design and Manufacturing systems
- Dynamics of Machines and Mechanisms
- Electrical Energy Systems
- Energy Efficient Buildings
- Energy Management and Conservation
- Fluid Mechanics
- Heat Transfer
- Mechanics
- Maintenance Engineering
- Materials Engineering

- Renewable Energy (e.g. Solar Energy, Biofuel Technology, Wind Energy and Advanced Energy Systems)
- Strength of Materials

Career and Graduate Study Opportunities

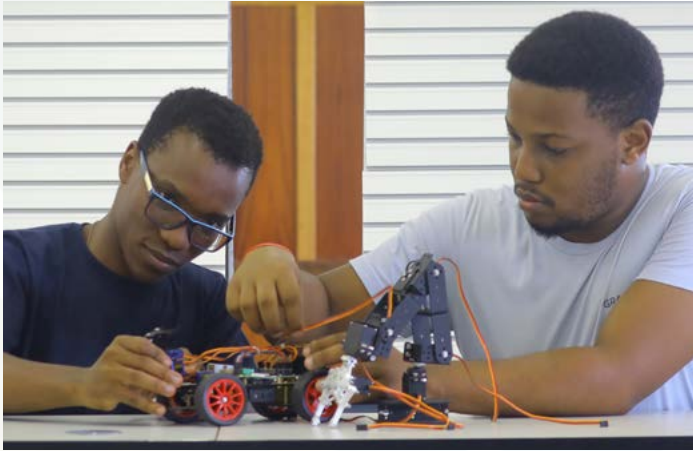
The Programme prepares students to have competencies and skills for careers in areas such as in power plants, maintenance of heavy duty equipment (e.g. in the mines, chemical, cement, pharmaceutical, food & allied industries), automotive industries, energy management and conservation, transportation, advanced materials design, renewable energy, oil and gas manufacturing, project management, consultancy, academia, public service, and logistics and operations.



MECHATRONICS AND INDUSTRIAL INSTRUMENTATION

Award: Bachelor of Engineering (BEng)

Duration: 5 years



Introduction

The increasing demand of current and future technologies requires that modern engineers possess multidisciplinary skills in order to meet the evolving needs of industry. With this requirement, engineers are expected to design and develop machinery with computer and electrical controls systems for automobiles, aircraft, power generation, mining and manufacturing plants to health and safety equipment. The programme is designed to produce engineers knowledgeable about and competent to employ new and emerging technologies that are crucial to maintaining modern society's competitive industries.

Why is this Course for Me?

Many industries rely heavily on the use of systems and equipment that are powered by mechanical principles,

electronics, computers and control systems. Increasingly, engineers are required to design and develop machinery with computer, mechanical and electronic controls. These technical skills are fundamental in industries and production systems.

What will I Study?

Mechatronics and Industrial Instrumentation is a multidisciplinary field combining mechanical, electronics, instrumentation, software and control engineering. It will equip the student with a range of skills required to design and maintain innovative solutions to automated modern industrial systems.

The Modules You Will Study Include:

- Control Engineering
- Data Acquisitions and Networks
- Dynamics of Machines and Mechanisms
- Electronics
- Industrial Automation and Control
- Machine Learning
- Materials and Manufacturing Engineering
- Measurement and Instrumentation
- Modelling and Simulation
- Robotics and Intelligent Systems
- Sensors and Actuators
- Software Engineering

Career and Graduate Study Opportunities

The graduate of this programme can follow a wide range of career pathways in industries such as oil and gas, manufacturing, heavy plant, mining, chemical and allied industries. They can function as Automation Engineers, Data Logging Engineers, Control Systems Engineers, Instrumentation Engineers, Manufacturing Engineers, Process Plant Engineers and Maintenance Engineers.



Amantle Keatimilwe

From the timid little girl to a Telecommunications Engineer

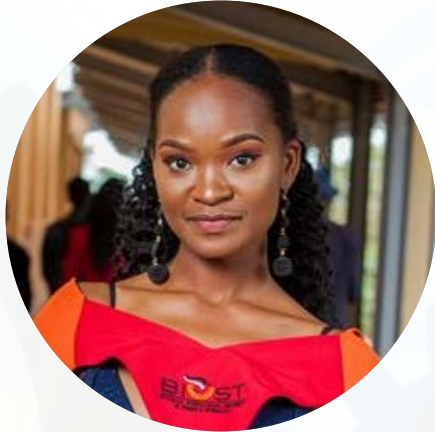
I am Amantle Keatimilwe. I graduated with a Bachelor's Degree in Telecommunications Engineering from BIUST in February 2018.

I was very privileged to be a beneficiary of the BTCL graduate trainee program and eternally grateful to the BIUST system for making this possible. I am currently a mobile and fixed core engineer at Botswana Telecommunications Corporation (BTCL). I would describe myself as a very dedicated student, a natural hard worker and multitasker. I am a vibrant and self-motivated person who believes in going the extra mile to achieve success. I am always keen to take on new challenges with high energy and drive. I am very passionate about women participation in the hitherto male-dominated sphere of Botswana's socio-economic development, hence the chosen engineering discipline.

I started in BIUST in 2012, I was part of the first batch, referred as "guinea pigs" by one of my professors. The

first two common years were done in Oodi. It was a bit difficult to adapt to University life however through the student affairs I managed to adapt. The last three years were completed at the Palapye campus. The journey may seem very hard and difficult to complete, but if you persist and focus on the end results you will make it. So many doubts crept in over the years, I remember I got 40%, on my first Math 101 test, I was very stressed since this was the very first time in my entire academic journey that I got a mark below 60%. Nevertheless, I managed to get the hang of things, started prioritising self-studying, maximizing tutorial consultations. Study groups also came in handy, it was through sharing information and having discussions that I got to widen my intellectual scope. Ultimately, I graduated the best student in the department of Electrical, Computer and Telecommunications Engineering (ECT), "glory be to God".

To those considering coming to BIUST, I would say "why not". I couldn't have picked a better school. BIUST course method delivery is one of the best, it incorporates both the practical and theoretical methods. The course content is industry relevant and there are a lot of out-of-class opportunities available that prepare students for the after-school life. A lot is learned on the job, but the basic foundation of the undergraduate programme plays an important role in the professional work. BIUST graduates are not only industry ready, but also equipped and skilled to create their own start-ups that could help transform the economy of the country. Of the past 2-3 years BIUST students have been doing well in creative and solutions based national and international competitions. I am grateful to the BIUST educational system for grooming students in this manner, we learnt, now working, enjoying and contributing to the economy of our country. I really enjoyed life at BIUST, grateful for everything the high, the lows, the support I've received.



Andreanne Same Gasebalwe

I am **Andreanne Same Gasebalwe**. A Geological Engineering graduate from BIUST, and currently employed as a Geotechnical Geologist at Cowburn Isherwood & Associates.

My University experience was one of the most positive life-changing experiences in my life. I have learned and experienced so many new things in the 5 years I spent in BIUST. This University is a very welcoming place, and from my first day, I felt at home. I made many new friends from different backgrounds.

The programme I pursued; BEng Geological Engineering, sounded like the best opportunity to build real-world skills and prepare me for the future. I had always displayed traits of going into the business world but ended up in a technical field. My friends and even family thought that I had made the wrong decision by studying Geological Engineering, but the skills and personal growth I developed during my stay in the University later proved them wrong.

I managed to get both my degree and suitable knowledge of establishing and running my own sustainable business.

The training, leadership development, communication and personal skills I learned during my stay in BIUST have been invaluable during the many cross roads in my life. I have, through all these learnings, spent time building a brand which is aimed at community development through skills training, mentorship education, creating investment opportunities and entrepreneurship development in Boteti area. I have made significant strides in the development of entrepreneurship in the Boteti community. I have built **Boteti Development Hub**, an NGO that houses one of my **biggest events**, **Boteti Investors Summit**, whose mandate is centered around innovative and sustainable entrepreneurship initiatives.

I have also built a solid profile as a motivational speaker, and this has gained me an opportunity to be selected and engaged as a moderator at the 2019 Women in Mining Conference held in Gaborone.

As a registered member of the Engineers Registration Board (ERB), I aim to employ my skills and knowledge in the challenging and dynamic science and business sectors. I aim to play a significant role in the field of Mineral discovery and sustainable growth of the mining sector in Botswana. I want to thank BIUST for the part it played in my life, the skills and life lessons I acquired through both theoretical teachings and industrial experience. Many of the lessons and values I learned are the ones that I have carried on in my workplace and social life.



Ogaufi Witney Setlhogile

- **Total StartUpper 2018/2019 Botswana winner**

I am Ogaufi Whitney Setlhogile, an Energy Engineering graduate from the Botswana International University of Science and Technology (BIUST). I endeavor to bring energy to ideas and projects as the **Founder and Director of Enviroscope (Pty) Ltd** and **Vice Secretary of Renewable Energy Association Botswana (REAB)**.

I campaign towards the much need to move to a more sustainable and innovative tomorrow through development of the energy sector in the Green direction. I am a philanthropist and through this spirit I co-founded and became one of the Directors of an NGO known as **Women in Energy (WinE)** which is mandated towards promoting women in the male dominated Energy field through project development, policy revision, advocacy and awareness.

Most recently I became the inaugural **Total StartUpper 2018/2019 Botswana winner** and subsequently Top Female Entrepreneur through my project which involved developing a Solar Water Desalination plant in an isolated rural community to provide water for the community and to ensure sustainability and growth. I also coupled the project with a water bottling plant to aid the bottle water crisis arising from the ban of imported water in Botswana.

I am also engaged as a **Technical Sales Manager at The Bulb World**, a company which manufactures LED Lighting. I am mandated with improving sales through my technical expertise behind the technology and ensuring targets are met and that the company's position in the market attains growth and improvement.





Tshepo Kefilwe Mokowe

- **Best student in the Department of Mining and Geological Engineering 2017.**
- **Best student Faculty of Engineering 2017.**

Allow me to introduce myself as Tshepo Kefilwe Mokowe. A proud graduate of BEng Mining Engineering and currently engaged at **Majwe Mining Joint Venture at Jwaneng Diamond Mine.**

While at BIUST, I held numerous positions, and these included being one of the founding Resident Assistants, a certified First Aider by The Botswana Red Cross Association as well as an Administrative Assistant for the Department of Registry Services.

As a Mining Engineering student at BIUST, we were exposed to both the theoretical and practical sides of our field of study. We made regular visits to both surface and underground mines such as Morupule Coal Mine, BCL, Orapa Diamond Mine, Tati Nickel Mine and quarries. On my fourth year of study, I was attached at Morupule Coal Mine for industrial

training where I spent 6 months as a trainee. I was exposed to multiple departments ranging from Geology, Production, Conveying, Coal Processing, Ventilation and Mine Survey.

I worked very hard in my studies and my impressive results earned me a nomination to represent the University at a Short Stay Program on Sustainable Development which was held in October 2017 in Japan. The Short Stay program was comprised of lectures in my field of study, a tour of facilities around Japan such as the Matsuo Mine Neutralization Plant, Kosaka Smelter and the Tamagawa hot springs to name a few. I was also involved in conducting and presenting projects with other program participants. The program had a total of 15 students from resource-rich countries around the world such as Botswana, Kazakhstan, Mongolia, Philippines and others. Whilst in Japan, I also got fortunate to be invited to attend the International Conference on Materials Engineering for Resources, ICMR 2017.

I strongly believe that this exposure molded me into a globally competitive graduate and a resourceful employee who is always ready to take up a new challenge.





Thabo Maletle

My name is Thabo Maletle. I enrolled and studied Mechatronics engineering in BIUST from 2015 to 2019. As a Mechatronics student, I was introduced to Programming, Control theory, Electronics and Automation.

While studying in BIUST, I developed an early interest in programming which led me to join Code Jammers club where I met my Mr Olebogeng Mbedzi whom we later partnered to develop Abstractclass; an online registration platform for the University. The University adopted the programme and used it for two consecutive years to facilitate student registration.

In my third year I joined a research lab run by Associate Professor Rodrigo Jamisola where we worked on projects in Robotics, Automation and Machine learning with a

focus of coming up with research contributions. Through this I was able to present my work during the first BIUST symposium as well as several research conferences in South Africa, Kenya, USA, Canada through the incredible help and support of the department of Mechanical, Energy and Industrial Engineering together with the Office of International Linkages and Partnerships.

During my last year at the University I had the opportunity to be selected as one of Botswana's representatives to participate in a Makeathon held in Spain where we worked on smart connected green projects. The initiative was sponsored by Botswana Innovation Hub. Furthermore, my enthusiasm and passion in software development and programming also gained me an opportunity to be selected as a team member for the development of the solar-powered vehicle prototype during the Smart Green Botswana Makeathon. The solar car project was aimed at building the capacity of students to ready them for the development of the first electric car in Botswana. This initiative was facilitated by the Ministry of Investment, Trade and Industry.

I am currently engaged by **First National Bank** as a **Product Development Analyst at the First Rand Group (SA)** in their **Digital Banking unit based in Sandton Johannesburg** while studying towards my masters in Mechatronics Engineering working on Machine learning based learning algorithms for autonomous robot navigation.



Dreadson Conrad Mathemba

- **Secretary General Student Representative Council 2017/2018.**
- **Class of 2018 Best Student in Department of Computer Science and Information Systems.**

If I were to describe my BIUST experience in one word, that word would be wholesome. Schooling in BIUST afforded me opportunities for which I will forever be grateful, it was through the BIUST Athletics Team that I got the opportunity to serve on the BOTESSA (Botswana Tertiary Schools Sports Association) as an administrator under the high jump team. It was also through BIUST that I was able to visit Namibia for the first time to attend the Southern Africa Google Developers Fest which was made possible by the Department of Computer Science & Information Systems.

I also got the opportunity to meet some honorable ministers and dignitaries in Botswana, through my involvement in

student welfare issues as the Secretary General of the BIUST Student Representative Council.

My stay in the University wasn't always pleasant though, undoubtedly it came with its challenges, one of these being the fact that I was part of cohort which was admitted at the time when the University was relocating its operations to the Palapye campus. This meant I had to stay in Serowe and commute to Palapye every day to attend my classes. It was at that time that I really had to hone my time management skills, it was an experience and a half!

I believe that BIUST curriculum greatly contributed to my readiness for the industry. I covered all the basics of the essential constructs I would need to succeed as a professional in Information Systems, these included Database Management Systems, Data Mining, Project Management, Corporate Network Security and so much more. With all this though, the responsibility was still on me to put the information to work, see how best I could apply it and make myself relevant to my field.

In addition to my BIUST qualification I have done several professional certifications to complement my knowledge base and augment my marketability in my line of work. I am currently engaged as a **Technical Specialist at Kgalagadi Breweries Limited**, and it is a very pleasant experience because I get to put to practice some of the skills I got from BIUST, and these range from networking to database administration to project management just to name a few. I am grateful for having had the opportunity to be part of this great institution!



Sefiso Amantle Mothudi

- **Best student in the Department of Mathematical and Statistical Sciences 2018.**
- **Best student Faculty of Sciences 2018.**

As one of BIUST top alumni, I would like to say BIUST was a home away from home for me. Being located on the outskirts of Palapye, the University provided me with a conducive environment for learning.

I remember looking at the BIUST 2014 prospectus, particularly at my area of interest, “Pure and Applied Mathematics”, it stated how the program would develop and harness ones analytic and rigorous skills, and looking back now, I can say without a doubt that the Department of Mathematics and Statistical sciences has done that for me. I have on overall enjoyed studying the course, and I now have a deep appreciation for Both Pure mathematics,

Applied mathematics and Computer programming. With the skill sets I have obtained not only from the Faculty of Science but also from the Center of Business Management, Entrepreneurship and General Education I managed to get job offers. Within a space of one year from my graduation I have worked as a Data analyst intern at Okavango Diamond Company and managed to secure a master’s degree offer in **Actuarial Science in the United Kingdom**, which I am currently pursuing at the **University of Kent**. BIUST has been a key stepping stone in my career development and I believe that someday my dream will be fulfilled; -as a woman in STEM, to someday stand upon the summit of intellectual greatness and help make Socio-Economic advancements for my precious Botswana.

With BIUST being a relatively new University I believe there are many opportunities for BIUST students to explore. During my time in BIUST I worked as a Residential Assistant, Peer mentor and tutor, and I also took part in a Mathematics outreach research program, I bear witness of my previous statement. The University has been a place of networking and learning from great minds; my peers, lectures, other BIUST staff and from University hosted Conferences. Within the University, there are different societies and clubs that help develop one’s social skills sets (and an opportunity to make new ones!). There are different Christian societies that one can take part in to develop and improve these skills. For me, BIUST Adventist fellowship was the society that helped mold my character, improved my presentation and communication skills and I believe I am a balanced member of society because of that. At BIUST, I managed to discover and establish myself, and as such, I can confidently say that BIUST was the place where the old me met the new me. Indeed, BIUST drives change!

BIUST Library: Resources, Facilities & Services for Students

Library services core responsibility is to facilitate access to multiple and flexible information sources, resources and services for teaching, learning and research. The management and usage of the resources is managed through a fully automated library system that enables seamless 24/7 access. The library is a fountain of information for students to increase their knowledge and understanding of concepts.

Resources

Collection: The library has a vast collection of information resources in both print and electronic formats.

- Print collections (i.e. books, magazines, photos, etc.) are housed within the library
- Electronic collection includes databases, e-journals and e-books. The electronic collection can be used 24/7 from any location.

Space & Facilities

- **Discussion rooms / Group study areas:** Safe, discussion or group study areas
- **Reading Space:** The library has a sitting capacity of 500, with access 75 computers located in both the main hall and remote reading spaces within campus.
- **Dedicated quiet study areas:** This quiet and serene area is available during library open hours; it is set to help sharpen the mind and improve concentration for the readers who prefer quietness to stay focused with less distraction while studying. Computers are available for quite use in this space.
- **Remote reading space**
- **Library computer labs**

Services

- **24/7 access** to electronic information resources even beyond the four walls of the library.
- **BIUST Catalogue:** This is the starting point for easy access to the library information resources. It informs you on what is available; in what format (print or electronic); and where it is located. It is an Online Public Access Catalogue (**OPAC**)
- **Circulation Services:** This service is available for students to borrow out and return library materials. Circulation desk is also the library inquiry or information desk.
- **Information literacy skills:** In the transforming ICT led environment, learners need skills to navigate different information networks and platforms. Special Information literacy skills are needed to be able to access, use and generate information. The library has a unique information literacy skills program for BIUST first years. The students learn how to identify, find, evaluate, and use information effectively; It fosters effective self-service among students and create lifelong and self-directed learners.
- **Inter Library Loans:** In cases where a requested item cannot be owned by BIUST library, its sources through a special partnership with other local and international libraries. The library facilitates access to the needed information item on behalf of the user at no cost.
- **Course reserves:** Lecturers or Instructors may place special recommended course materials in the library. The library reserves and manages this collection to enable fair sharing and usage through special borrowing terms. The reserved collection also includes any other special or high demand information sources.



- **Research help:** The library has qualified and dedicated Librarians who will assist students find the best resources for assignments, projects and papers.
- **Research workshops:** The library organises workshops that are targeted to students' specific needs.
- **Library outreach programmes:** Student centred programs to engage with the library to build collections and services that you need; learn how to research; and participate as a responsible citizen of the global information environment.
- **Presidential collection@BIUST:** this is special and rare collection that show cases the legacy of both the present and past presidents of the Republic of Botswana. It is accessible in the main library.

Technology mediated tools

- The library has developed an **Institutional Repository** to enable global access and visibility of BIUST research output. Thesis; conference papers; journal articles etc. can be accessed here.
- **LibGuide** been developed specifically for students as a one stop shop for specific subject materials.

Operating Hours

During Semester

Monday - Thursday 08:30- 2230

Friday 08:30-1700

Saturday 10:00-16:00

Sunday 14:00-20:00

During Academic Recess

Weekdays only 08:30 - 16:30

National Holidays

CLOSED

BIUST STUDENT SERVICES

Student Life

Student services are of paramount importance in the University to ensure that students are holistically fit to pursue their studies. Student services fully contribute towards development of a well-rounded graduate considering the socio- cultural, psychological and spiritual aspect of an individual student. The services encourage students to fully engage, participate in all spheres of the society and to be innovative to contribute towards a knowledge-based society.

The following units exist under student services:

a) Health Services

BIUST clinic offers youth friendly, affordable and accessible Primary Health care services to all registered students. The services are student oriented with a comprehensive continuous care for acute and chronic health problems, as well as a wide range of health promotion and disease prevention services. The nursing care model in place is well suited to achieve BIUST strategic goal which is to provide exceptional student experience by providing quality health care which encompasses all the principles of Primary health care. Services include:

- Clinical Consultation and treatment with medical doctor / nurse
- Emergency Response Services
- Sexual Reproductive Health services
- Health Prevention and Health Promotion Activities

The clinic operates from Monday to Friday from 0745hrs to 1630hrs. The nurse and ambulance driver are always

on call after hours and during weekends to cater for emergencies.

- Emergency Contacts:
 - Toll free number: 0800600193
 - Direct contact nurses: +267 73154388/9
 - Direct contact ambulance: +267 73154189
 - Email: health@biust.ac.bw

b) Support to students with special needs such Disabilities

It is the mandate of the University to provide support services to students with special needs with respect and consideration of human dignity, rights and opportunities. In line with this mandate, this unit is obliged to offer support to students with special needs or health conditions that impact negatively on their ability to study or perform their academic activities and their daily duties. The unit ensures that students with special needs have equal access to learning and assessment opportunities. This unit supports students to help them pursue their academic, graduate and employment aspirations.

The unit ensures that:

- The accommodation is suitable for the students' needs
- Classroom or lecture theatre are accessible and can accommodate the individual needs
- During examinations the student's needs are catered for.
- The officer advocates for the student's needs in all aspects that influence their stay in the University

- The officer ensures that the student is not discriminated against based on their disability.

It is important to note that:

- At the time of applying to study at BIUST, a student with special needs is expected to submit relevant documents to confirm the diagnosis and intervention measures or kind of support needed to assist the student cope with the studies or daily life activities. This is to ensure that the needed resources are available. The documents must include all information related to, and confirmation of the special need, and recommendations on the type of adjustments required.
- Regular reviews and updated reports should be availed; failure to do that may result in delays of the process because; the supporting documentation may not be acceptable if it is more than a year old at the time of submission. Considering that other conditions may change with time.
- All information received will be kept confidential; in the event any information needs to be shared consent will be sought from the concerned student.
- Students are not required to disclose their disability unless the disability or chronic health condition is likely to affect the student's capacity to meet the inherent requirements of a module, or program.

c) Careers and Counselling services

The Careers and Counselling Unit actively assist students with a wide range of intervention strategies to help them recognize and resolve existing problems as well as learn how to cope with the current situations

that might negatively impact on their studies and the ability to strive for academic excellence, further preventing them from developing complex issues. The Unit also emphasizes on helping students to develop personal awareness to realize their potential and how they could excel in life

d) Academic support and intervention services

The goal of Academic Support and Intervention Office is to develop student centered strategies and interventions that enhance students' academic thinking as well as assist students to achieve full academic and personal potential.

The main purpose of the office is to identify academically at-risk students (either by self-referral or by metrics approved by the faculties) for intervention strategies and learning remediation. The Office also serves to facilitate access to learning resources, additional teaching opportunities in consultation with academic staff to promote successful student learning and academic progression. Furthermore, the office responds to academic performance indicators and intervening to avert and mitigate academic risk.

Services offered;

- Academic advising and support
- Academic clubs support
- Academic Information support
- Examination competency development
- Student mentoring and coaching
- Peer to peer mentoring
- Persistence and retention support services
- Referrals
- Student success programs
- Study and Time management skills

For more information and appointment with relevant officers for Counselling Services, Special needs support and academic support and intervention services please contact;

Ms Lucia C. Sebina- Mmerekil

Tel: (+267) 4931730

E-mail: mmerekil@biust.ac.bw

Location: Student Affairs centre/Clinic: Office 007

e) Sports and Recreational Services

Student will find the sports activities and social life vital and exciting ingredients to their wider University experience. Involvement in sporting activities, student clubs and societies enable them to explore their passion and realise their potential in other spheres of life. Student will be able to use available sporting facilities free of charge.



f) The Sports and Recreation also operate a gym to enhance the healthy lifestyle among the BIUST Community. The gym offers a variety of fitness programs which cater for different interest groups.

g) Gym operating hours are as follows;

Monday-Thursday 0630-2030

Friday 0630-1830

Saturday 0730-1500

Sunday 0730-1230

For more information on available sports activities and registered clubs, you may contact;

Mr. Patrick Moesi

Tel: (+267) 493 1687

E-mail: Moesip@biust.ac.bw

Location: Student Affairs centre/Clinic: Office 006

h) New student Orientation

Student life services office organizes a week-long Orientation exercise at the beginning of the academic year to help first years to transition from senior school environment to a University and to help them settle in. First years are expected to report on campus a week before commencement of their classes to be acquainted to the learning environment through orientation, the teaching staff, and University facilities and to conduct registration for their classes. Attendance of the orientation is compulsory.

During the orientation, students will be introduced to registered clubs and other sports activities available on campus and they will have a chance to register for their preferred sporting activities and connect with their new friends.

STUDENT ACCOMMODATION

The Office of Campus housing under the directorate of Student Welfare and campus life is mandated to provide services related on and off campus accommodation. The aim of campus housing is to create a residence culture that is conducive to living and learning. Residence life, as part of the student experience is intended to enhance holistic development of every student on campus.

Services provided by campus housing;

- Accommodation
- Opportunities for living and learning community programmes (LLC)
- After hours assistance by wardens and resident assistants
- Catering Services-P35.53 per day per student
- Laundry Services-P50.00 per basket
- Reception of new students

Campus Housing Staff

Mr. Wilson Mankanku: Manager Campus Housing **Tel: 4931684**

Mrs. Goitzone Sepako-Matere: Campus Housing Officer **Tel: 4931724**

Mr. Elijah Kokoro: Campus Housing Officer **Tel: 4931686**

Our Residence Facilities

Currently we provide single and shared accommodation facilities to our students on campus. We also have satellite accommodation outside campus. The university halls of residence have the necessary basic furniture and facilities inclusive of free Wi-Fi.

On campus

Single bed space: 256

Shared bed space: 1894

Satellite Accommodation

Fengyue offside campus shared be space: 220

Residence Fees;

- Undergraduate (two semesters) P5500-00
- Undergraduate during holidays per night P150-00
- Non-student during holidays per night P250-00

How to apply for accommodation

Go to www.biust.ac.bw, click on students, online student accommodation application to access application form.

Contacts

Campus Housing Office: **(+267) 4931724/1686**

Ambulance service: **(+267) 731 54189**





CONTACTS

Directorate of Registry Services
Enrolment & Admissions Office
Plot 10071, Boseja Ward, Palapye, Botswana
Private Bag 16, Palapye, Botswana
Tel: (+267) 4931000 / 4900117, Fax (+267) 4900102

Email: admissions@biust.ac.bw

Web: www.biust.ac.bw

Facebook: BIUST

Twitter: @biustbw