

## **FACULTY OF SCIENCE**



## **GOMBE STATE UNIVERSITY**

### **2015/2016 ANNUAL REPORT**

The Faculty of Science is one of the three Faculties that was established since the inception of the University 10 years ago and consists of the Departments of Biological Sciences, Biochemistry, Chemistry, Geography, Geology, Mathematics, Microbiology and Physics. Actually the Departments of Biochemistry and Microbiology were curved out of the Department of Biological Sciences two sessions ago. At the moment the Departments of Geology, Maths and the Office of the Dean occupy some of the quadrangular block of offices that is shared between the Faculty and that of Arts and Social Sciences. The other departments are located within the vicinity of the Faculty except the Departments of Biochemistry and Microbiology that are situated at the premises of the Medical College about  $\frac{1}{2}$  kilometre away from the Faculty.



A multi-million naira Science Complex funded by TETFUND under construction has been designed in such way with enough laboratories that would accommodate the departments of Biology, Chemistry and Physics. This is in addition to the administrative and some academic offices for the Faculty.

### **Academic Programmes**

All the above mentioned Departments, having secured full accreditation from the National Universities Commission (NUC), offer a Bachelor of Science degree in their various disciplines as shown in the table below.

<b>Department</b>	<b>Undergraduate Programme offered</b>	<b>Postgraduate Programme offered</b>
Biological Sciences	B.Sc. Biology, B.Sc. Botany, and B.Sc. Zoology	
Biochemistry	B.Sc. Biochemistry	
Chemistry	B.Sc. Chemistry	
Geography	B.Sc. Geography	
Geology	B.Sc. Geology	
Mathematics	B.Sc. Maths, B.Sc. Computer Science, B.Sc. Statistics	
Microbiology	B.Sc. Microbiology	
Physics	B.Sc. Physics	M.Sc. Physics

The Departments of Biochemistry and Microbiology faced accreditation exercise as independent departments in 2014/2015 academic year and earned full and interim accreditation respectively. In the re-accreditation exercise, Physics and Computer Science were granted full accreditation while Geography earned interim accreditation. The remaining Departments are due for re-accreditation very soon.

In July the Faculty introduced a National Diploma programme in Science Laboratory Technology so as to meet the needs of the secondary schools in the state that have been operating without this cadre of personnel.

**Academic staff.** Due to an aggressive manpower development by the University, the over-dependence on visiting staff from sister institutions have drastically reduced compared to the early years of the University. However, the doors are open to staff on sabbatical leave who would like to come to the University to make their contributions to the growth of this young university.

The Head of Departments are as follows.

<b>Department</b>	<b>Head of Department</b>
Biological Sciences	Danladi Umar, Ph.D.
Biochemistry	Prof. Sani Ibrahim*, Ph.D.
Chemistry	Elisha Karu, Ph.D.
Geography	Yakubu Dan, Ph.D.
Geology	Prof. Edafetano Christopher Ashanu*, Ph.D.
Maths	Ahmad Bappah, Ph.D.
Microbiology	Prof. M.D .Mukhtar*, Ph.D.
Physics	Hankaraou Seydou, Ph.D.

\*On visiting capacity.

**Staff dispositions in the various Departments.**

Dept.	Prof.		Ass. Prof.		Snr. Lect.		Lect I	Lect. II	Ass. Lect	Grad. Ass.	Total
	FT	VT	FT	VT	FT	VT	FT	FT	FT	FT	
Biological Sciences	0	8	0	4	5	0	1	2	15	12	47
Biochemistry	0	5	3*	1	0	2	1	1	2	6	21
Chemistry	1*	2	0	2	1	0	3	2	9	6	26
Geography	0	1	0	1	1	3	3	4	11	6	30
Geology	0	4	0	3	0	1	4	3	5	3	23
Mathematics	0	6	0	2	1	4	1	3	29	11	57
Microbiology	0	3	0	3	0	2	0	5	2	6	21
Physics	1	5	0	2	1	3	1	1	6	3	23
Total	2	34	3*	18	9	15	14	21	73	53	242

N.B FT = Full Time, VT = Visiting, \* on sabbatical leave to the University.

The total number of the teaching staff in the Faculty excluding Graduate Assistants for the session stood at 188 and is bottom-heavy. Furthermore the Faculty had one Professor full time (currently the Vice Chancellor), one sabbatical while the remaining Professors and Associate Professors are on visiting to the Departments. This is not surprising for a university that is barely 10 years in existence. But with the regular promotions at the end of every session hopefully the story would be different in the next couple of years to come.

The Department of Biological Sciences has the highest number of academic staff. This is because it runs three programmes, i.e B.Sc. Biology, B.Sc. Botany and B.Sc. Zoology.

**Non-Academic Staff.**

The day to day management of the Faculty is assisted by a Faculty Officer, Atika M. Magaji, an Executive Officer Mr Abubakar Aliyu Difa, and a Senior Clerical Officer, Ibrahim Gidado. At the Departmental level there is at least a Computer Operator and a number of Technologists and Laboratory Attendants. There are a very limited number of cleaners. The disposition of all the non-academic staff in the Faculty for the 2015/2016 session was as follows.

CADRE	BIOCH	BIOL	CHEM	GEOG	GEOL	MATH	MICR	PHY	Ttl
TECH.	4	5	4	2	2	0	2	3	22
C. OP.	0	1	1	1	1	1	1	2	8
CARTO	0	0	0	1	0	0	0	0	1
L. ATT.	0	1	2	0	1	1	0	1	6
LIB.ST	0	0	0	0	0	0	0	0	0
CL.	1	1	0	1	1	1	1	0	6
Total	5	8	7	5	5	3	4	6	43

**Key to cadre:** TECH = Technologists, C. OP. = Computer operator, CARTO. = Cartographer, L. ATT. = Lab. Attendants, LIB. ST = Library Staff = CL = Cleaners.

None of the Departments has a Library staff. In order to conserve resources, for the time being there is a Faculty Library that serves all the departments.

**Departments:** BIOCH = Biochemistry, BIOL = Biological Sciences, CHEM = Chemistry, GEOG = Geography, GEOL = Geology, MATH = Mathematics, PHY = Physics

Only the Department of Geography requires a cartographer. The issue of cleaners has been an area of concern to the University even though it has engaged casual labour but this is still inadequate.

#### **No. of Registered Students 2015/2016**

S/N	DEPARTMENTS	100L	200L	300L	400L	TOTAL
1.	Biochemistry	171	51	25	54	301
2.	Biological Sciences	292	108	113	67	580
3.	Chemistry	53	21	10	15	99
4.	Geography	156	93	76	45	370
5.	Geology	62	26	21	36	145
6.	Microbiology	139	65	25	65	294
7.	Mathematics	37	20	19	20	96
8.	Computer Science	134	90	76	76	376
9.	Statistics	60	19	32	22	133
10.	Physics	36	12	11	8	67
	<b>Total</b>	<b>1140</b>	<b>505</b>	<b>408</b>	<b>408</b>	<b>2461</b>

A total of 2461 students registered for the session with Physics having the least number of students. Admissions into the other sciences like chemistry, geology and mathematics are similar. This is not surprising as it is a national trend especially for this part of chemistry. However the University has demonstrated commitment to increasing the number of intakes into these departments. As part of our contributions towards improving the

science output from the secondary schools of the state, arrangements have reached an advanced stage to conduct a Teachers Vacation Course whereby the teachers would be retrained in certain aspects of the secondary school curriculum that have been noted to be lacking seriously from our in-takes.

Out of 2461 students that registered for the session, 17 (seventeen) deferred their studies and eight (8) students were expelled for various offences.

S / N	Student Reg. No.	Name	Date of expulsion	Offence
1	UG/14/SCGS/1118	Vincent Vitalis	11/11/2015	misbehaviour during examination
2	UG12/SCGS/1005	Zara Ahmed Usman	13/11/2015	Examination misconduct
3	UG13/SCBS/1143	Usman Daniel	13/11/2015	Examination misconduct
4	UG11/SCGL/1009	Friday Emmanuel	13/11/2015	Examination misconduct
5	UG13/SCST/1043	Yau Mohammed	13/11/2015	Examination misconduct
6	UG13/SCBS/1090	Mohammed Abdulhamid	13/11/2015	Examination misconduct
7	UG14/SCBS/1142	Abdulaziz Yau	12/4/2016	Examination misconduct
8	GSU 13/SPS/PY/0010	Oladejo George Gbenga	16/5/2016	Examination misconduct

**Graduating Students.** A total of 275 students graduated in the 2015/2016 session out of this number, 14 graduated with first class, 83 second class upper division, 141 second class lower division, 49 third class honours degrees.

Number of Students that Graduating in 2015/2016.

Department	1 <sup>st</sup> Class	2 <sup>nd</sup> Class Upper Division	2 <sup>nd</sup> Class Lower Division	Third Class	Total
Biological Sciences.	0	15	26	12	53
Biochemistry	3	20	13	4	40
Chemistry	0	3	2	3	6
Geography	1	6	19	7	33
Geology	1	5	10	13	29
Mathematics	8	19	33	8	68
Microbiology	1	14	25	1	41
Physics	0	1	3	1	5
<b>Total</b>	14	83	131	49	275

## Research and Innovations

For the first time in the history of this young institution, the University was able to access funding from the Institutional Based Research of TETFUND of the Federal Government of Nigeria in the year under review. During an International Workshop on R&D and Innovation organised by TETFUND at the African Leadership Institute in Ohio, U.S.A for which the Dean of the Faculty and his Deputy attended in September 2015, the then Executive Secretary Professor Suleiman Bagoro announced that out of a total number of 109 proposals received for research in 2015 only 28 scaled through. It is matter of great pride for the university and the Faculty in particular that out of the 28 six (6) were from Gombe State University and out of the six (6) five (5) were from this Faculty. These were the first set of grants from TTETFUND. Those that received funding in the 2015/2016 were as follows.

S/ N	Research Topic	Researchers of the Various Research Teams	Lead Researcher	Duration	Amount
1	Varietal Characterisation and Genomic Influence on Yield Performance and Life Shelf of Onions( <i>Allium cepa</i> L.) in Gombe	3	Dr. Elisha Karu	12 months	N1,987,700.00
2	How Frugivore Loss, Seed and Habitat Availability Lead to a Predictable Shift in the Species Composition of Lowland Forest: Implications for the Management of Forest Restoration	4	Dr. Aliyu Babale	12 months	N1,930,000.00
3	Indoor Resting	4	Kennedy	12	N2,000,000.00

	Mosquitoes and Its Implications to Malaria and Lymphatic Filarisis Transmission and Control in Gombe State Nigeria		Poloma Yoriyo	months	
4	The Effect of Soil pH on the Abundance of Nitrite Oxidizing Bacteria (Nitrospira and Nitrobacter): A Case Study of Agricultural Soil in Akko Local Government Area of Gombe State	3	Dr. Fatima Umaru Maigari	12 months	N2,000,000.00
5	The Effect of Land use in Stream Communities in Dadin Kowa Area, Gombe State, Nigeria	5	Dr. Danladi M, Umar	12 months	N2,000,000.00

The researchers are at various stages of completion of their work, and the Progress Reports have already been forwarded to the Funders.

These first set of research projects have indeed stimulated research activities in the University for the first time and more staff have now taken up the challenge to finding solutions to local problems whereby more staff have now submitted proposals to the fund and are awaiting approvals.

### **FACULTY WORKING COMMITTEES**

Like most Nigerian Universities the administration is by the committee system which operates fully right from the departmental to the Management and Council Levels. At the Faculty Level we have the Board of Examiners, the Standing Committee, Student Examinations' Misconduct Committee, Seminar Committee, Research and Innovations Committee, and



Postgraduate Committee. The composition and main functions of these committees are briefly described below.

**Faculty Board of Examiners.** This is composed of all the lecturers that are involved in the teaching of undergraduate courses and as in all Committees, is chaired by the Dean who at the moment is appointed by the Vice Chancellor. The Board sits each semester to consider and recommend to senate semester examination results, cases of examination misconduct, and requests for deferment of studies by students of the Faculty.

**Faculty Standing Committee.** The Committee is composed of all Professors of the Faculty, and the Head of Departments. It performs oversight functions on all the administrative and academic activities and also draws up calendar of events for the faculty for each session. It is also responsible for preparing promotion cases of academic staff, from the ranks of Assistant Lecturer to Senior Lecturer for consideration by the University Appointment and Promotions Committee. Since there no full-time Associate Professors and Professors in the faculty at the moment, it is not competent to consider promotions of staff to these ranks at the moment. So such cases are therefore handled directly by the Office of the Vice Chancellor.

**Examination's Misconduct Committee.** All cases of examination misconduct by students are first considered by this Committee before they are discussed by the Board of Examiners. For the year under review the Committee is composed of the following staff.

- |      |   |           |
|------|---|-----------|
| i.   | Dr. Kennedy Poloma Yoriyo<br>Department of Biological Sciences) | Chairman  |
| ii.  | Mr Abullateef O. Abdullahi<br>Department of Chemistry           | Member    |
| iii. | Mr Encho Leo Tanyam<br>Department of Mathematics                | Member    |
| iv.  | Mrs. Grace U. Michael<br>Department of geography                | Member    |
| v.   | Representative of the Faculty Exams Office                      | Member    |
| vi.  | Atika M. Magaji<br>Faculty Officer                              | Secretary |

Seven cases of Examination Misconduct were investigated by the Committee and were recommended for expulsions. These were upheld by the senate.

**Research and Innovations Committee.** The Committee is saddled with the responsibility of screening all research proposals from the Departments and recommend to the Standing Committee the proposals that have fulfilled the

requirements of the Grantors. The current chairman and members are as follows:-

- |       |  |           |
|-------|--|-----------|
| (i)   | Dr. Lazarus A. Mbaya<br>Department of Geography        | Chairman  |
| (ii)  | Dr. Wilson L. Danbature<br>Department of chemistry     | Member    |
| (iii) | Prof. G. P. Singh<br>Geology Department                | Member    |
| (iv)  | Dr. Fatima Umaru Maigari<br>Department of Biochemistry | Member    |
| (v)   | Mr Abubakar Adamu<br>Department of mathematics         | Member    |
| (vi)  | Atika M. Magaji<br><br>Faculty Officer                 | Secretary |

**Seminar and Public Lectures Committee.** This Committee is responsible for organising the Seminar series and also public lectures. This committee was dormant for some time but was reactivated in 2015/2016. The Committee is being chaired by Dr. Bala Modi from the Department of Mathematics. Other members of the Committee are:-

- |       |                          |                            |
|-------|--------------------------|----------------------------|
| (i)   | Dr, Fatima Umaru Maigari | Department of Biochemistry |
| (ii)  | Mr Aliyu M. Auwal        | Department of Mathematics  |
| (iii) | Mr Augustine Njabba      | Department of Physics      |
| (iv)  | Mr Gideon Didams         | Department of Geography    |
| (v)   | Atika M Magaji           | Faculty Officer, Secretary |

The seminar series delivered in the year were as follows.

S/N	Name	Topic	Department	Date
1	Dr. Wilson L. Danbature	Production and optimization of biodiesel from baobab ( <i>Adansonia digitata</i> ) and mahogany ( <i>Kaya senegalensis</i> ) seed oils	Chemistry	26/11/2015
2	Dr. Rejoice Atiko	Phytochemical Investigation of <i>Lasianthera africana</i> roots	Chemistry	26/11/2015

		extracts.		
3	Zaccheus Shehu	Dust Fall Monitoring in University Ibadan, University Ilorin and Kwara State University Motor Parks, Nigeria.	Chemistry	26/11/2015
4	Sale Sani	Recombinant DNA (rDNA) Technology in Plant: Principles, Applications and Ethics.	Biological Sciences	26/11/2015
5	Daniel A. Zhigila	Palynology in relation to systematics and pollen allergy in ornamental plants	Biological Sciences	13/11/2015
6	Dr. Fatima U. Maigari	Antioxidant status in Diabetic Patient attending Teaching Hospital Gombe, Nigeria	Biochemistry	17/12/2015
7	Yahaya Ibrahim	Observed rainfall variability in north eastern Nigeria: An analysis of rainfall trend and patterns 1984 - 2013	Geography	17/12/2015
8	Bello Mohammed Bashir	The pattern of fuel wood supply to Gombe Urban Area Gombe State, Nigeria	Geography	17/12/2015
9	Yusuf Abubakar	Ground Magnetic Investigation of Iron Occurrence in the Basement Rocks of Dadoru and Environs Adamawa, Massif, North East Nigeria	Geology	28/01/2016
10	Sale I. Bute	Petrochemical	Geology	28/01/2016

		and Tectonogenetic Evolution of the Granitoids of part of Wuyo- Gubrunde Horst, North East Nigeria. Implication on Uranium Occurrence.		
11	Dr. Bala Modi	A Highly Compressible Regular Expression Matching Circuit for Network Intrusion Detection Systems.	Mathematics	28/01/2016
12	Ahmadu M. Aliyu	Analysis of Darlington Pair in Distributed Amplifier Circuit.	Physics	11/02/2016
13	Sisa Aminu	Estimation of Ionospheric Energy dissipation using Østgaard's Relation.	Physics	11/02/2016
14	Abdulrasheed Mansur	Effect of soil pH on composition and abundance of nitrite oxidizing bacteria	Microbiology	11/02/2016

**Workshop and Conferences Committee:** A Committee was put in place to organise a Teachers Training Course for science secondary teachers in the state. The committee has concluded its assignment and further directives from the management being awaited. The committee was chaired by Mr Edwin.Y. Mbiimbe of the Geology Department of Geology, with Dr, Halima Abba (Biology Department), Dr. Rejoice Atiko (Chemistry Department), Shitu Abdullahi (Physics Department), Mohammed Saleh Bute (Mathematics Department), and Mrs. Comfort Al-min Dawa (Geography Department).

**Faculty Postgraduate Committee.** All curricula for postgraduate studies are first drawn by a Committee at the Departmental which are the passed

on to the Postgraduate Committee. If the Postgraduate Committee is satisfied that the curriculum to be mounted for the postgraduate studies have met the Bench Marks of the regulatory body it is then passed on to the School of Postgraduate Studies of the University for approval if not it then returned to the Department for the necessary corrections and adoptions. Results for the postgraduate programmes are also considered by his committee before they are forwarded to higher authority for consideration and approval. All the Head of Departments and professors on sabbatical leave are members.

In the year 2015/2016, the Faculty of Science graduated M.Sc. Physics; Adamu Ibrahim Usman with Registration number GSU/SPS/MSC/0076 having satisfied all the necessary conditions for the award of the degree. This is the first master's degree to be awarded by the university.

A Case of Examination Misconduct involving Oladejo George Gbenga with Registration number GSU13/SPS/PY/0010 was reported, investigated and was consequently expelled from the University.

**Faculty Journal:** Preparations have reached an advanced to publish a journal of the Faculty known as Bima Journal of Science and Technology. It is envisaged that the first edition will be ready by the last quarter of 2016.

#### **In-House Training Workshop for Secretaries/HODs**

The Faculty in conjunction with the Registry organised a day's workshop for Head of Departments and secretaries/computer operators on 5<sup>th</sup> April 2016 in the Faculty on various aspects of office procedure and management. Messrs Abubakar A. Difa and Abubakar Saleh were the resource persons.

**Elisha Karu, Ph.D.**

Dean