



**CATHOLIC UNIVERSITY INSTITUTE OF BUEA**

**CUIB**

**The Entrepreneurial University**



**School of Agriculture and Natural Resources**



# **Student Handbook**



## TABLE OF CONTENT

SECTION I: WELCOME MESSAGES .....	1
I.1. Message from the President .....	2
I.2. Message from the Provost .....	4
I.3. Message from the Dean .....	5
SECTION II: GENERAL INFORMATIONS .....	7
II.1. Brief History of SANR .....	8
II.2. Mentorship .....	9
II.3. Campuses .....	9
II.4. Contacts .....	10
II.5. Philosophy of the School of Agriculture .....	10
II.5.1. Vision .....	10
II.5.2. Mission .....	10
II.6. Our Programs .....	11
II.7. Admission requirements .....	11
II.8. Students Application, Tuition and Orientation .....	12
II.8.1. Application .....	12
II.8.2. Tuition .....	12
II.8.3. Orientation .....	12
II.9. Dressing code .....	13
II.10. Administration of the School .....	13
II.11. Personnel of SANR .....	13
SECTION III: COURSE STRUCTURES .....	16
III.1. Associate of science degree .....	17
III.2. Bachelor of science degree .....	19
III.3. Master of science degree .....	24
III.3.1. Common courses for all specialties .....	24
III.3.2. Specialties courses .....	24
III.3.2.1. Organic Livestock Husbandry and Breeding (OLHB) .....	24

III.3.2.2. Nutrition and Food Quality (NFQ).....	25
III.3.2.3. Organic Crop Production .....	25
III.3.2.4. Sustainable Agriculture and Development.....	26
SECTION IV: GRADING SYSTEM/EVALUATION SYSTEMS/GRADUATION REQUIREMENT/PROFESSIONAL TRAINING .....	27
IV.1. Grading system.....	28
IV.2. Evaluation systems .....	28
IV.3. Sanctions for violation of registration and course related requirements .....	29
IV.4. Procedure for adding or dropping of courses .....	29
IV.5. Graduation requirements .....	30
IV.6. Degree classification .....	31
IV.7. Professional training in agriculture .....	31
IV.7.1. Internships/Practicals .....	31
IV.7.2. Entrepreneurial Project .....	33
IV.7.3. Volunteerism.....	33
SECTION V: COURSES DESCRIPTIONS .....	34
V.1. Associate of science degree .....	35
V.2. Bachelor of science degree .....	40
V.3. Master of science degree .....	53
v.3.1. Common courses.....	53
v.3.2. Organic livestock husbandry and breeding.....	55
v.3.3. Nutrition and food quality.....	57
v.3.4. Organic crop production .....	59
v.3.5. Sustainable agriculture and management.....	62
SECTION VI: TEMPLATES: WRITING OF A RESEARCH PROPOSAL/REPORTS/THESIS .....	64
VI.1. Writing of a final year and master research proposals .....	65
VI.2. Writing of a final year research project or master thesis.....	69
VI.3. Format of internship report.....	73
SECTION VII: CUIB facilitating services.....	78
VII.1. Library.....	79

VII.2. Office of Examination and Records (OER) .....	79
VII.3. Campus Ministry .....	79
VII.4. Health Centre .....	79
VII.5. STUGA .....	80
VII.6. St. Martha Faculty, Staff and Students restaurant.....	80
VII.7. Office of Utility and Custodial Services .....	80
VII.8. CUIB Communication Service .....	80
VII.9. Sport Academy.....	80
VII.10. Security Division.....	80
VII.11. CUIB Center for Student Services .....	81
VII.12. Transport and Logistics.....	81

## **LIST OF FIGURES**

Figure 1: Enrolment in the School of Agriculture & Natural Resources, CUIB, since 2010/2011.....	8
Figure 2: Distribution of SANR Alumni today .....	9

## **LIST OF TABLES**

Table 1. Different CUIB Bank Accounts .....	12
Table 2: Personnel of SANR .....	14
Table 3: Course grading system in CUIB.....	28
Table 4: Degree Classification .....	31

# **SECTION I**

## **WELCOME MESSAGES**



## I.1. MESSAGE FROM THE PRESIDENT

My happy Duty as President of The Catholic University Institute of Buea (CUIB), **The Entrepreneurial University** is to thank the Group that has worked hard to produce this fourth Edition of our Students' Handbook. Our goal as a university has been to prepare a kind of executive school handbook or **vade-mecum** that is not only meant to enhance our student learning and experience but also to help all our partners and stakeholders to understand our unique mission and identity as an entrepreneurial university based, on the Focolare's Economy of Communion (EoC) philosophy. The EoC is a community of approximately 800 businesses world-wide that fosters a "culture of giving" within business so as to humanize the economy. By emphasizing Catholic Studies in our core curriculum and EoC in our Entrepreneurial curriculum, we in CUIB have attempted to institutionalize a unique and distinctively Catholic Entrepreneurial University by fostering a socially and spiritually-based understanding of sound entrepreneurial skills, techniques and practices. This has not been an easy task especially as such a model is so new not only to our immediate environment but to the Cameroon Nation in particular and the African Continent at large.

I congratulate the Provost, Prof. Wilfred A. NDONGKO and his immediate collaborators who have worked hard to make this dream come true. My special thanks go to the Vice-President in charge of Academic Affairs and Industrial Partnerships, Dr. HAKO TOUKO Blaise Arnaud, and to the Dean of the School of Agriculture & Natural Resources Dr. TONFACK DJIKENG Fabrice and his team for their dedication and selflessness to help bring to fruition our vision for a vade mecum for our students in the School of Agriculture and Natural Resources.

The reader going through this handbook will notice that two things stand out – our Both/And culture versus either/or and conflict-driven-profit or social impact, poor against rich and our entrepreneurial culture which runs through the academic heartland of all our schools. In CUIB we emphasize both the **Heart and Soul** of our Entrepreneurial Education. The heart of our Entrepreneurial education is that we train our students to be academically competent in their areas of specialization acquiring the right skills and techniques that are necessary for them to face a very competitive society. For instance, the needed skills within business of reading a balance sheet, calculating cost of capital, providing statistical analysis, targeting and segmenting markets, managing group dynamics, generating creative thinking, mediating conflicts and so forth are imperative in CUIB. However, while such skills and techniques are important, (the matter of Entrepreneurial education), they are insufficient as they do not move students to an "economy of Communion" which has the ability to foster not just economic development, but "integral human development". In our country, we continue to see and hear stories of corruption and misappropriation of funds meant for the common good. We continue to see and hear stories of Banks starting off well and collapsing because someone embezzled all the money. A true and genuine entrepreneurial education must also foster spiritual and moral values. The proper conduct of an entrepreneur is informed by his or her ethics, character and worldview. That is why in CUIB our curriculum is designed also to develop a moral compass that will enable our students



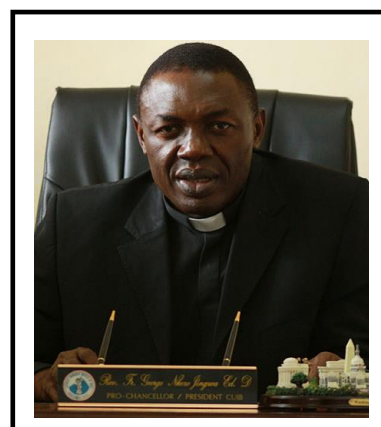
to find the right solutions even when in uncharted territory and also address the ethical and economic challenges which they face every day in a coherent way. We think that this is the way forward for our nation if we have to effectively achieve **Vision 2035** of our current President Paul Biya. This approach that CUIB has adopted is truly the Catholic approach to life. It is not an either/or approach that enables the winner to take it all but an approach which is meant to be win-win. In CUIB it is about Faith and Reason, Spirituality and Work, prayer and hard work (study), vocation and business, leisure and study. This is what our Catholic faith teaches us. Think of the Eucharist where we have at the same time the Body and Blood of our Lord Jesus Christ, but also bread and wine. Is this an either/or situation? At first glance these seem to be mutually exclusive states, but with the eye and reason of our faith, it becomes a wonderful both/and. What is perceived to be opposed becomes a beautiful and complementary unity. In CUIB we have used this ancient insight of our mother Church and apply it to teaching, research and practice. In CUIB, we have what is called the “EoC hour”. This hour begins with the celebration of the Holy Mass at midday, the greatest act of communion. From 12.30 -1,30 pm EoC is reserved for sharing, meditation, ritual celebrations, conferences, birthdays, EoC base Group Work, tutoring, inspirational talks etc. Our interactions in the university be they economic, civic, or personal, are not aimed at winner-takes-all, but at win/win collaboration.

Another important aspect that the reader of this student handbook will clearly appreciate is the fact that our entrepreneurial programs run through the academic heartland, that is, all the schools. Developing an entrepreneurial mindset and taking the risk in doing business through the University’s Research and Business arm known as CUIB Centre for Entrepreneurship, Research and Innovation are the pathways that we have adopted in CUIB. It is my hope that this handbook will go a long way to foster this unique Catholic and Entrepreneurial culture.

Ad multosannos!!!

God bless you.  
In Jesus and Mary,

Fr. George NKEZE JINGWA  
President/Pro-Chancellor, CUIB



## **I.2. Message from the Provost**

I am delighted to introduce the fourth edition of the School of Agriculture and Natural Resources CUIB School Handbook. The Handbook provides essential information about the activities of the school which all students in the School or prospective students need to have.

The School of Agriculture and Natural Resources, CUIB which has been in existence since 2010 is a centre of excellence for the production of highly competent, effective and efficient graduates in Agriculture to meet the man power needs of the nation and the world.

All students on admission must register properly as specified in this handbook. It is therefore important that students have a copy of the School Handbook for detailed information about the procedures for registration, and other activities of the School. Screening of credentials is done at least two times before a student graduates; usually in the first year and in the final year. You must be ready to submit your original credentials for screening at the appropriate time, when the University calls for them.

The essential facilities needed by the students to pursue their academic careers peacefully and successfully are available in the University. You must attend lectures regularly and promptly, do all your assignments and submit them before the expiration of the deadlines given by your Lecturers; make the best use of the library and stay focused on your studies in order to actualize your academic ambitions. There are Academic Advisers in the school, whose responsibilities include guiding and counseling students in matters relating to their academic program. You should not hesitate to approach your Academic Advisers on any question or problem you may encounter about your academic work for necessary guidance.

The graduation requirements for programs in the School of Agriculture and Natural Resources range from 180 credits minimum to 240 credits maximum; with a fulfillment of all the general university requirements including 100 hours of volunteerism, foundation courses, introductory courses and core courses. In order to meet these requirements, you need to work hard, pray hard, so that at the end you will be found worthy in both character and training to be awarded a Bachelor of Science in Agriculture.

I wish you success in your academic pursuit.

Prof. Wilfred A. NDONGKO

Provost

Chief Academic Officer



### **I.3. Welcome to the School of Agriculture and Natural Resources**

To our stakeholders, students, alumni, community partners, parents and friends, I wish you a warm welcome to the School of Agriculture and Natural Resources (SANR).

Today, due to the progress of Science and Technology, food productivity soared high. Along with this advancement, however, are negative aspects like the use of chemicals in abundance for fast growth and production of crops and animals for more generation of incomes; the over-use of chemical additives in foods; pollution and environmental destruction. As results, these damaging features of food production have greatly contributed to the reduction of the quality of the food produced; to the increase of degenerative diseases and mortality rate and finally to global warming. Now that we are challenged with revising the relationship between humans and nature, we have to seek for solutions, by improving on our lifestyle. We believe that, Sustainable Agriculture and especially the practice and adoption of “Organic Agriculture” is the key solution to these challenges. Our goal is to totally move toward the sustainable production of foods for healthy people and environment. To solve the problem of food production versus the preservation of the environment, the school promotes research to a great extent, and offers unique educational programs under the umbrella of the two key words that symbolize our ideals: “Sustainable and Organic Agriculture”.

Catholic University Institute of Buea through the School of Agriculture and Natural Resources is the only University in Cameroon offering an Integrated Program in Agriculture (BSc) and an Associate of Science (AS) in Integrated Agriculture and Food Systems (2 years), that cuts across Animal Science, Agronomy, Food Science and Technology, Agribusiness and extension (Four in one). SANR is also the unique institution in Cameroon offering a Master of Science (2 years) in Sustainable Agriculture, with focus on “Organic Agriculture”. Four specialties are offered: *Organic Livestock Husbandry and Breeding, Nutrition and Food Quality, Organic Crop Production and Sustainable Agriculture and Development*.

The academic program of SANR is designed to satisfy the needs of a rapid evolving national and global agricultural landscape. We train Agricultural Entrepreneurs (Job creators), Agricultural Professionals, Scientists, Scholars, Consultants and Project managers.

Our administrators, faculty, staff, alumni and partners always give their full range of energy, creativity and commitment to ensure that our mission of academic excellence is achieved. Students in SANR acquire skills through mobile and ubiquitous learning, classroom lectures, laboratory practicals, hands-on application, work placements in industries, farm practice, field visits, individual student projects and research. The Postgraduate program of the School of Agriculture and Natural Resources is research and innovation- oriented to improve the quality of life of people and the sustainability of the community as a whole.

The School of Agriculture and Natural Resources is the first destination of choice for students in Cameroon and abroad interested to become true Sustainable Agricultural Leaders. We prepare our students to be life and job ready.

This Student Handbook serves as your guide to Catholic University Institute of Buea, especially the School of Agriculture and Natural Resources. Inside, you will find essential information about the University and School policies, procedures, and opportunities, including academic resources, campus safety, scholarships, discipline, Course structures and descriptions, tuition and fees and many others. The handbook is broken down into sections to make it easy for you to find information. Wherever possible, direct contact information, hyperlinks, and hours of operation have been included. Updated annually, the Student Handbook will be of great benefit to you from your first day on campus until your last.

I wish you all a successful academic year

Dr. TONFACK DJIKENG Fabrice

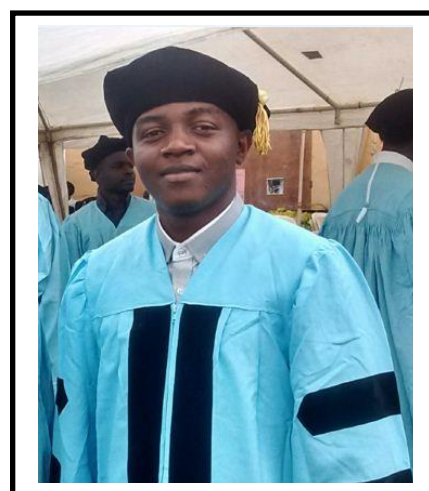
*Ph.D in Nutrition and Food Security*

Dean, School of Agriculture and Natural Resources

Catholic University Institute of Buea

Phone: +237 678 37 93 54

Email: [fdjikeng@cuib-cameroon.net](mailto:fdjikeng@cuib-cameroon.net)





## SECTION II

# GENERAL INFORMATION





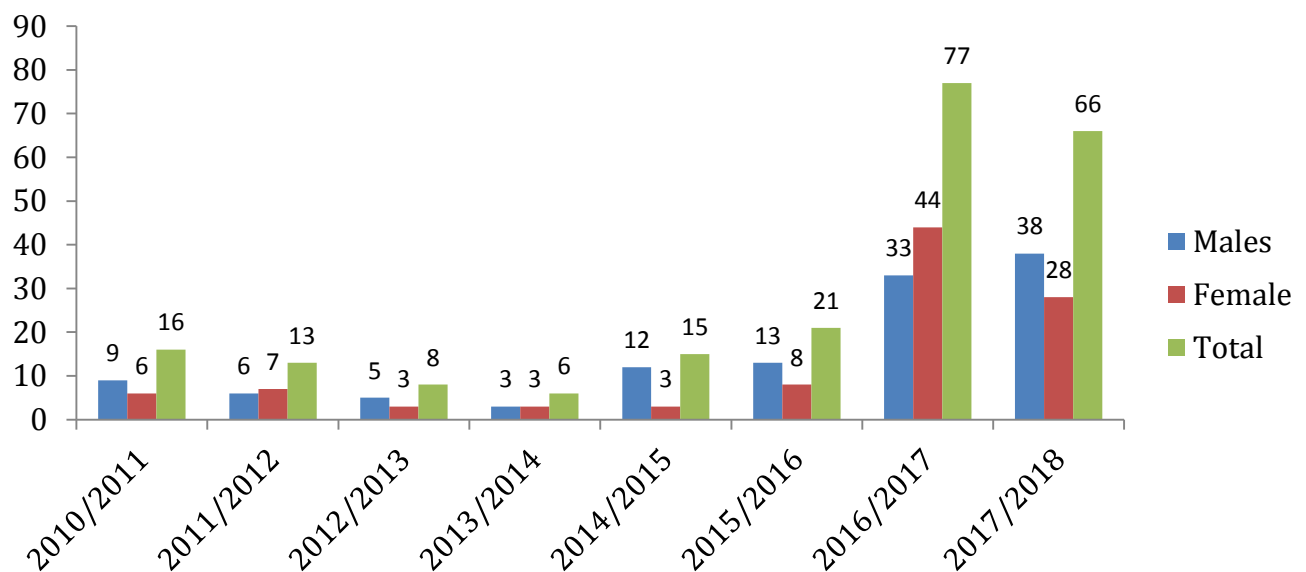
## II.1. Brief History of SANR

The creation of CUIB is a conception of the Bishop of the Diocese of Buea, His Lordship Immanuel Bushu, to meet the needs of the community for a Catholic Institution of Higher Learning. With authorization from the Minister of Higher Education, CUIB was created on the 11<sup>th</sup> July 2009.

Furthermore, by decision № 10/02173/N/MINESUP/DDES/ESUP/SAC/NJE/ebm of 26<sup>th</sup> May 2010, CUIB was authorized to go operational. Thus, the university opened its doors to the pioneer students on the 4<sup>th</sup> October 2010.

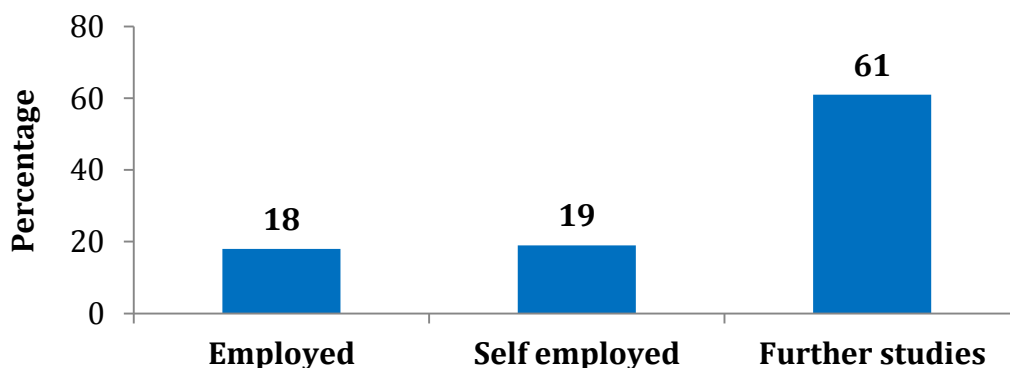
CUIB opened its doors with five Schools among which the School of Agriculture & Natural Resources which registered 16 pioneer students. The students have been drawn from every region of the country under the successive stewardship of:

- ✓ Dr. Ngala George Ndzi (2010-2011),
- ✓ Dr. Tatah Eugene Lenzemo (2011-2013),
- ✓ Dr. Laetitia Ako Kima (2013 – 2015),
- ✓ Dr. Hako Touko Blaise Arnaud (2015 – 2017),
- ✓ Dr. TONFACK DJIKENG Fabrice (2017-Present)



**Figure 1:** Enrolment in the School of Agriculture & Natural Resources, CUIB, since 2010/2011

## Alumni



**Figure 2:** Distribution of SANR Alumni today

### II.2. Mentorship

CUIB, being a young university, is under the mentorship of the University of Buea (UB) hence, its programs are scrutinized by the University of Buea. Every academic year, the syllabuses, examination questions and marking guides are vetted by UB. This involves examining the curriculum, course contents and detailed course outlines, examination questions and marking guides. Recommendations are made and implemented in order to ensure that academic standards are maintained.

### II.3. Campuses

The School of Agriculture and Natural Resources has two different campuses:

#### ✓ **Buea campus**

This is the main campus of SANR. Here, two campuses exist: The Molyko Campus (Located at Molyko, Buea) which is the **campus B**, and the Wokaka campus (Located at Muea, Buea) which is the **campus A** and where the offices, Laboratories and experimental farm of the School of Agriculture are normally found. For the meantime, the campus A is close for security reasons. Consequently, for any information, refers to the Molyko campus (Campus B) for now, as things have been transferred.

#### ✓ **Douala campus**

This campus is located at Bonamoussadi, Parcourt-Vita, behind “Institut Polyvalent Nanfah”, and opposite “Hotel de France”. The campus is hosted by SIGMEN.

## II.4. Contacts

Tel: 678 379 354

E-mail: [sanr.office@cuib-cameroon.net](mailto:sanr.office@cuib-cameroon.net)

Web-site: <http://cuib-cameroon.org/school-of-agriculture-and-natural-resources/>

## II.5. Philosophy of the School of Agriculture

The academic philosophy of the School of Agriculture and Natural Resources fall within the six key pillars of the Academic Philosophy of CUIB namely:

- ✓ *Spiritual and moral values,*
- ✓ *Entrepreneurial spirit,*
- ✓ *Scientific and technical know-how,*
- ✓ *Social, environmental awareness and responsibility,*
- ✓ *Integrated education for life,*
- ✓ *The Economy of Communion (EoC).*

A major guiding philosophy of the school is that the students do not only acquire a high level of theory, but to rather blend it with practical and on the job experience through work placements in industries, hands-on, farm practice, individual student projects and strong emphasis of spiritual and moral well-being. Our philosophy imbibes the need for agriculture students to become major innovators and problem solvers of our local production and processing problems.

### II.5.1. Vision

The vision of SANR is to restore the harmony between the creator and the creatures through Sustainable Organic Agriculture and to become an innovative research oriented and self-sustainable school, responsive to local, national, regional and global challenges in the agricultural sector.

### II.5.2. Mission

The mission of SANR is to develop vocations of true Agricultural Business Leaders and Innovators to sustain food security, environment welfare and alleviate poverty; To provide innovative and sound educational programs on both theory and practice of agricultural science that prepares students for professional careers in diverse fields. SANR programs address current and emerging issues in agricultural and related sciences by building on the university's commitment of developing professional servant leaders, creating and sharing knowledge through diverse, hands-on applications.

This mission is accomplished through the programs offered in SANR.



## II.6. Our Programs

✓ **Master of Science in Sustainable Agriculture (02 years) with specialty in:**

- Organic Livestock Husbandry and Breeding
- Nutrition and Food Quality
- Organic Crop Production
- Sustainable Agriculture and Development

✓ **Bachelor of Science in Agriculture (04 years)**

This program is an integrated program that cuts across Agronomy, Animal Sciences, Food Science and Technology as well as Agribusiness and Extension.

✓ **Associate Degree in Integrated Agriculture and Food Systems (02 years)**

This program is also an integrated one that cuts across Agronomy, Animal Sciences, Food Science and Technology as well as Agribusiness and Extension. The particularities of this program are that it is scalable and focused on hands-on activities. Students can transition to the Junior year and complete 02 years to be awarded a Bachelor in Agriculture. While doing the Associate degree program, students are encouraged to register and write their HND exam.

SANR programs seek to address current and emerging issues in Agriculture and related sciences by building on the University's commitment of developing professional servant leaders, creating and sharing knowledge through diverse hands-on applications, Mobile and Ubiquitous learning.

## II.7. Admission requirements

To be eligible for admission in SANR, the candidate must have passed at least **four subjects** at the **GCE 'O' Levels** and at least **two science subjects** at the **GCE 'A' Levels**. The science subjects required shall be selected from the following relevant subjects: Biology, Chemistry, Economics, Mathematics, Physics and Geography. Applicants with one or two subjects other than Science subjects can be admitted only if they take engagement to enroll in the **Vocational Competence** Program of CUIB.

Foreign students should get a Certificate of Equivalence of their Certificates from the Ministry of Higher Education in Cameroon.

**Important:** The Catholic University Institute of Buea (CUIB), admits students from a diverse language background.

## II.8. Students Application, Tuition and Orientation

### II.8.1. Application

The Application is online and can be done in less than 5 min at the following website: [cuib-cameroon.com/apply](http://cuib-cameroon.com/apply). An application fee of 15000 FCFA is paid for registration into the BSc and Associate Degree programs, while a sum of 25000 FCFA is paid for the registration in the Master program. Once the application is submitted, the school committees study it and within a maximum of 72 hours, the student knows its status. Accepted students received an admission letter signed by the competent authority of the University. For rejected files, reasons are given and the file owner is also informed within the same timeframe.

### II.8.2. Tuition

Tuition for Undergraduate Degree (B.Sc): **850.000 FCFA** per year, studies carried out for a period of Four (4) Years (Undergraduate American system model). Tuition for HND: **250.000 FCFA** per year, studies carried out for a period of Two (2) Years (HND Cameroon Model) Tuition for Associate Degree: **400.000 FCFA** per year, studies carried out for a period of Two (2) years (International Model) and Tuition for Master of Science: **1.5 000 000 FCFA** per year, studies carried out for a period of Two (2) years.

**Table 1.** Different CUIB Bank Accounts

BANK	ACCOUNT NAME	ACCOUNT NUMBER
ECOBANK	Catholic University Institute of Buea	10029-26015-1413400401-71
BICEC	Catholic University Institute of Buea	10001-06842-43495642001-50
SGC	Catholic University Institute of Buea	10003-03300-1633050287-26
NFC Bank S.A	Catholic University Institute of Buea	10025-00043-16401044571-96

For more information, contact the Office of Finance at [finance.office@cuib-cameroon.net](mailto:finance.office@cuib-cameroon.net).

### II.8.3. Orientation

The purpose of this orientation is to give a general overview of what is expected of the students during their four years of study in SANR-CUIB and to familiarize themselves with one another, university environment and with the staff and Faculty of the school.

When school resumes, admitted and returning students go through the orientation process, where they are highlighted on the University identity, philosophy, mission, vision, policies and administration.... Members of important unit (Finance, sport, Entrepreneurship, Catholic studies, Center for students' services, CITS...also present their unit and its function to the students.

Students are also trained to use the online and ubiquitous learning system, and their questions are answered for more clarification.

After the general orientation now start orientation by schools. Each school represented by the Dean, Faculty, Staff and returning students presents its vision, mission, staff, programs, points of prides, dress code, academic program, core courses and general university requirements, modality for payment of fees and implications, evaluation system, calculation of GPA, farm activities, fieldtrips and internships, carrier opportunities, channel of communication, ... to the students and answers to their questions. The students are also assisted in registering for their courses on the OCR platform at <http://cuib-cameroon.org/ocr/>. For the courses registration, to get their Registration number and access their accounts, the students should pay 75% of their school fee and upload their receipt by login into the account they created during their application at [cuib-cameroon.com/apply](http://cuib-cameroon.com/apply). Once the student submits his/her A2 form, the Dean or his/her secretary study and approves.

## **II.9. Dressing code**

### **a) Official Wear**

Students must show decency in their manner of dressing. They are expected to wear their university fabrics for Matriculation, Youth Day and National Day Celebrations. The dress must be moderate, neat and orderly with skirts at below or knee levels for the girls. Indecent dressing that result in indecent exposure of body parts may cause the student to be sent home. On all Wednesdays, students should wear the corporate T-Shirt.

### **b) Professional Wear**

All students are expected to appear as professionals in the School of Agriculture & Natural Resources. Professional wear has been prescribed for the school and students must appear in their professional attire on days prescribed by the school.

## **II.10. Administration of the School**

The Dean is the Administrative Head of the School. He/She is responsible for both academic and administrative matters that ensure the smooth functioning of the School. All academic staff comprises the Faculty Board and meet as the need arises to deliberate on issues such as teaching, practical, farm practice, entrepreneurial projects, research, industrial training, examinations and other activities concerning the School. These entities provide the faculty the opportunity to be involved in decision making on both academic and general administration of the school.

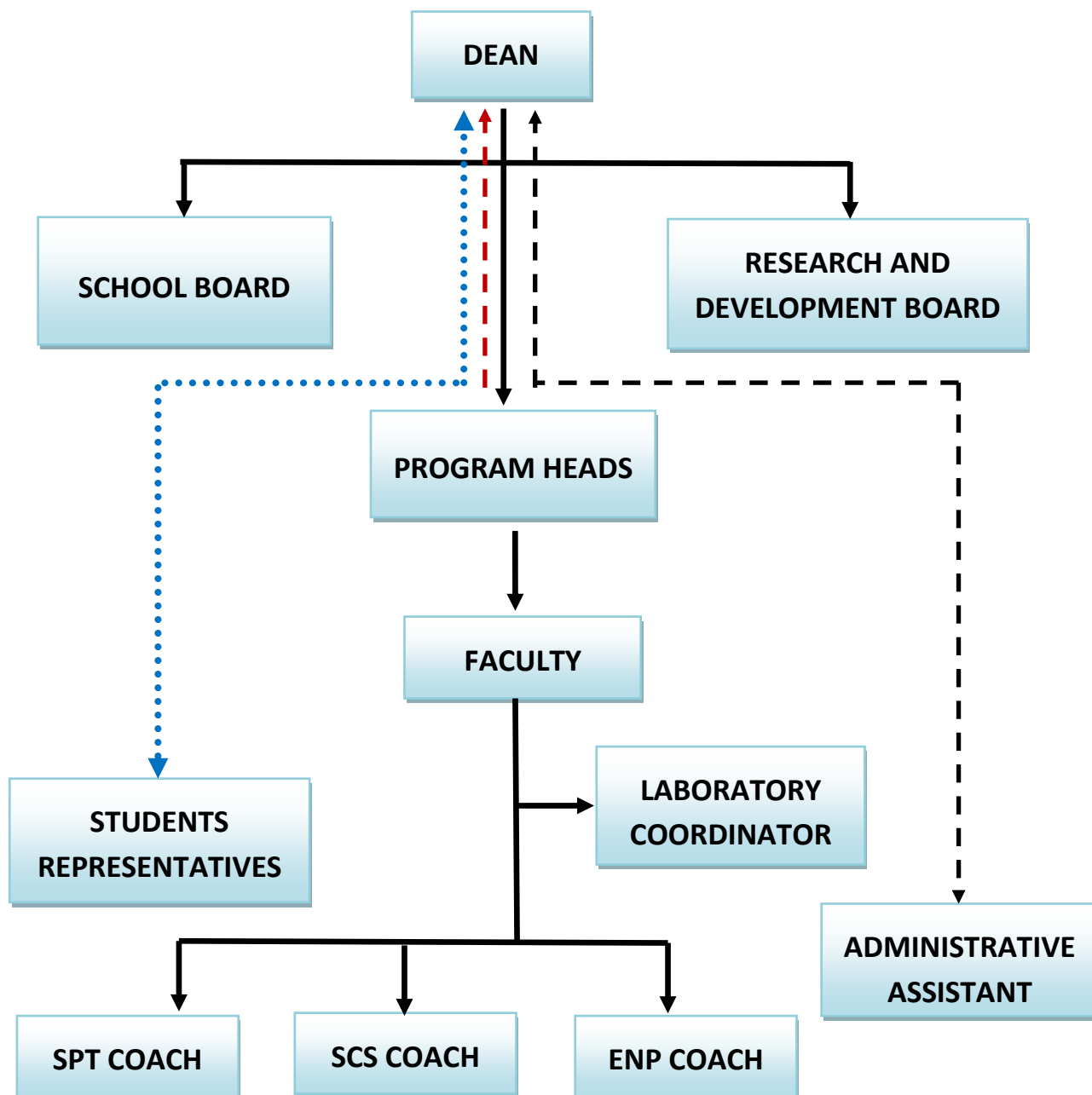
## **II.11. Personnel of SANR**

The personnel of the school consist of academic and administrative staff. The academic staff (faculty) includes: a Dean, a Vice Dean and faculty who teach under the school. The School also has an administrative assistant and a farm technician. All faculty and staff are answerable to the Dean, who in turn, is answerable to the Vice-President of Academic Affairs, who is answerable to the Provost.

**Table 2: Personnel of SANR**

School	Name of Faculty/staff	Qual.	Area of Specialization	Contact
<b>Dean Office</b>	Dr. Tonfack Djikeng Fabrice	Ph.D	Biochemistry/Nutrition and Food Security	<a href="mailto:fdjikeng@cuib-cameroon.net">fdjikeng@cuib-cameroon.net</a> Tel: 671 99 44 56
<b>Faculty /Lecturers</b>	Dr. Hako Touko Blaise Arnaud	PhD	Animal breeding and Genetics	<a href="mailto:htouko@cuib-cameroon.net">htouko@cuib-cameroon.net</a> (+237) 677 23 48 81
	Dr. Tonfack Djikeng Fabrice	PhD	Biochemistry/Nutrition and Food Security	<a href="mailto:fdjikeng@cuib-cameroon.net">fdjikeng@cuib-cameroon.net</a> Tel: 671 99 44 56
	Dr. Ngangoum Eric	Ph.D	Biochemistry/Food Science and Nutrition	<a href="mailto:ericngangoum@gmail.com">ericngangoum@gmail.com</a> 675 24 01 51
	Mrs. Morfor Nee Theresia Afeanyi Azia	MSc	Agronomist/Crop Production and Biotechnology	<a href="mailto:tmorfor@cuib-cameroon.net">tmorfor@cuib-cameroon.net</a> Tel: (+237) 670 31 49 74
	Mr Arnold Tatah Kong	MSc	Animal Sciences	<a href="mailto:Arnoldkong26@gmail.com">Arnoldkong26@gmail.com</a> 670 23 37 46
	Mrs Mercy Murkwe	MSc	Animal Science	<a href="mailto:mmurkwe@gmail.com">mmurkwe@gmail.com</a> 678 67 59 19
	Mr Oben Njock E	MSc	Agribusiness	<a href="mailto:njockoben@gmail.com">njockoben@gmail.com</a> 661 69 52 24
	Mr Ghislain Mbeng Nyemb	MSc	Biochemistry/Nutrition and Food Security	<a href="mailto:mbengnyemb@gmail.com">mbengnyemb@gmail.com</a> 699 61 04 17
	Mrs Kamtat Famen Gaby	MSc	Agronomy	<a href="mailto:kamtatfameng@yahoo.fr">kamtatfameng@yahoo.fr</a> 694 65 65 51
	Mr Tameh Jude	MSc	Mathematics/Physics	<a href="mailto:tamehjude@gmail.com">tamehjude@gmail.com</a> 654 72 41 58
	Iris Ikome	MSc	Chemistry	<a href="mailto:ikomenganje@gmail.com">ikomenganje@gmail.com</a> 676 11 23 69
	Gwat Nazah	MSc	Agribusiness	<a href="mailto:gwatnazah2016@gmail.com">gwatnazah2016@gmail.com</a> 675 76 01 77

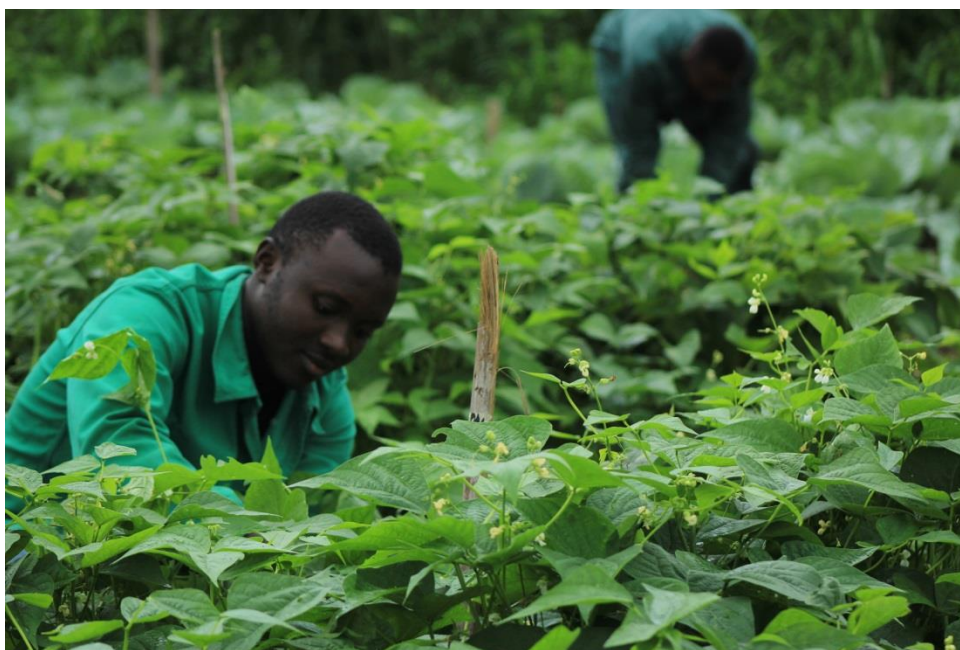
## Organizational Chart of the School of Agriculture and Natural Resources





## **SECTION III**

# **COURSE STRUCTURES**



### III.1. ASSOCIATE OF SCIENCE DEGREE

#### FRESHMEN (LEVEL 1)

SEMESTER I				
SN	CODE	COURSE TITLE	TYPE	CV
1	AFC 101	Linear Algebra	C	6
2	AFC103	General Chemistry	C	6
3	AFC 105	General Biochemistry and Microbiology	C	6
4	AFC107	Introduction to ICT	C	6
5	AHS 101	Civics and Moral Education/Catholic Studies	C	3
6	ALA 103/ ALA 105	English (ALA 103) or French (ALA 105)	C	4
7	AEN 101	Entrepreneurial Project I	U	2
Total				33

SEMESTER II				
SN	CODE	COURSE TITLE	TYPE	CV
1	AFC 102	Agricultural Mechanics and Electricity	C	6
2	AFC 104	Plant and Animal Biology	C	6
3	AAG 102	Organic Crop and Animal Production	C	6
4	AFT 108	Human Nutrition and Dietetics	C	6
5	AHS 102	Land and Labor Law	C	3
6	AFC 106	Scientific Writing and Communication	C	4
7	AAG 104	Agricultural Field Experience I	U	2
8	AEN102	Entrepreneurial Project II	U	2
Total				35

## SOPHOMORE (LEVEL II)

SEMESTER I				
SN	CODE	COURSE TITLE	TYPE	CV
1	ABU 201	Fundamental of Business Economics	C	3
2	AFC 203	Statistics and Probabilities	C	6
3	AAG 201	Agricultural Soil Management	C	3
4	AAN 201	Aquaculture and Aquaponics	C	5
5	AAG 203	Environmental Science	C	4
6	AFT 203	Processing of Organic Agricultural Products	C	4
7	AAG 209	Agricultural Field Experience II	U	3
8	AEN 201	Entrepreneurial Project III	U	2
<b>Total</b>				<b>30</b>

SEMESTER II				
SN	CODE	COURSE TITLE	TYPE	CV
1	AAG 204	Sustainable and Organic Agriculture	C	4
2	AAG 206	Plant Diseases and Management	C	5
3	AAN 202	Animal Nutrition and Feeding	C	5
4	ABU 204	Fundamentals of Accounting	C	3
5	ABU 206	Agricultural Project Management	C	3
6	AAG 208	Professional Project	C	8
7	AEN 202	Entrepreneurial Project IV	U	2
<b>Total</b>				<b>30</b>

### Legend

- ✓ AAG = Agronomy courses
- ✓ AFT = Food science and Technology courses
- ✓ AAN = Animal science courses
- ✓ ABU = Agribusiness courses
- ✓ AFC = Foundation courses
- ✓ AEN = Entrepreneurial courses
- ✓ AHS = Human science courses
- ✓ ALA = Language

### Important

Courses mark with  
**C** = Compulsory,  
**U** = University Course



### III.2. BACHELOR OF SCIENCE DEGREE

#### FRESHMEN (LEVEL 1)

SEMESTER I				
SN	CODE	COURSE TITLE	TYPE	CV
1	MAT 101	Mathematics For Agriculture	C	6
2	AGR 101	Chemistry For Agriculture	C	6
3	AGR 103	General Agriculture and Farm practice	C	6
4	AGR 105	Agricultural Biology	C	6
5	ICT 101	Introduction to ICT	C	6
6	FRE 101	Use Of French	U	1
7	MSR 101	Methodology of Scientific Research	U	4
8	ENG 101	Use Of English	U	1
9	ENP 101	Entrepreneurial Project I	U	2
10	SPT 101	Sport I	U	0
11	SCS 101	Search for happiness 1	U	0
12	VOL	Volunteerism I	U	0
<b>Total</b>				<b>38</b>

SEMESTER II				
SN	CODE	COURSE TITLE	TYPE	CV
1	AGR104	Initiation internship	C	4
2	AGR 106	Plant propagation and Farm practice	C	6
3	AGR 108	Introduction to Ecology and Natural Resource Management	C	6
4	AGR118	Principles of Genetics an Molecular Biology	C	6
5	PHY 102	Physics for Agriculture	C	6
6	SPT 102	Sport II	U	0
7	FRE 102	Use Of French II	U	1
8	ENG 102	Use Of English II	U	1
9	ENP 102	Entrepreneurial Project II	U	2
10	SCS 102	Search for happiness II	U	0
11	VOL	Volunteerism II	U	0
<b>Total</b>				<b>32</b>

## SOPHOMORE (LEVEL 2)

SEMESTER I				
SN	CODE	COURSE TITLE	TYPE	CV
1	CSS 201	Soil Science and Fertility	C	6
2	ANS 215	Animal Anatomy, physiology and Ethology	C	6
3	ANS 207	Ruminant Animal Production and farm practice	C	6
4	FBT 201	Nutritional Biochemistry and Metabolism	C	6
5	AEC 217	Principles of Business Economics	C	6
6	AEC 213	Principles of Accounting	E	6
7	ENP 201	Entrepreneurial Project III	U	2
8	SCS 201	Path and Practices of catholic spirituality	U	0
9	VOL 201	Volunteerism III	U	0
<b>Total</b>				<b>38</b>

*Students are free to select Elective courses*

SEMESTER II				
SN	CODE	COURSE TITLE	TYPE	CV
1	AGR 212	Sustainable and Organic Agriculture	C	6
2	CSS 202	Plant Pathology and Protection	C	6
3	ANS 202	Non Ruminant Animal Production	C	6
4	ANS 206	Principles of Animal Nutrition	C	6
5	AGR 202	Pre-professional Internship	C	8
6	CSS 216	Plant physiology	C	6
7	ENP 202	Entrepreneurial Project IV	U	2
8	SCS 202	Path and Practices of Catholic Spirituality II	U	0
9	VOL 202	Volunteerism IV	U	0
<b>Total</b>				<b>40</b>

### JUNIOR (LEVEL 3)

SEMESTER I				
SN	CODE	COURSE TITLE	TYPE	CV
1	AGR 307	Irrigation, drainage and farm practice	C	6
2	CSS 307	Plant Breeding and Genetics	C	6
3	MAT 301	Statistics and Probability	C	6
4	FBT 315	Post-Harvest Technologies and Management	C	6
5	AEC 313	Fundamentals of Management	C	6
6	ANS 313	Non-Conventional Animal Production	E	6
7	AEC 311	Principles of Marketing	E	6
8	CSS 303	Weed Science And Plant Systematic	E	6
9	FBT 307	Food Technology and Microbiology	E	6
10	ENP 301	Entrepreneurship Training & Practice V	U	2
11	SCS 301	The Church and Culture	U	0
12	VOL 301	Volunteerism V	U	0
<b>Total</b>				<b>42</b>

*Each student must select at least two elective courses among those offered to meet the minimum credit load required for the year*

SEMESTER II				
SN	CODE	COURSE TITLE	TYPE	CV
1	AGR 310	Work Experience	C	26
2	VOL 302	Volunteerism VI	U	0
<b>Total</b>				<b>26</b>

**SENIOR (LEVEL 4)**

<b>SEMESTER I</b>				
<b>SN</b>	<b>CODE</b>	<b>COURSE TITLE</b>	<b>TYPE</b>	<b>CV</b>
1	AEC 409	Agricultural Extension and Rural Development	C	6
2	FBT 411	Human Nutrition	C	6
3	ANS 409	Integrated Livestock Production Systems	C	6
4	FBT 407	Food Safety and Quality Control	C	6
5	ANS 415	Principles of Aquaculture and Fisheries	C	6
6	AEC 413	Project Management	C	6
7	ENP 401	Entrepreneurial Project 4	U	2
8	SCS 401	Sexuality and marriage 1	U	0
9	VOL 401	Volunteerism 7	U	0
<b>Total</b>				<b>38</b>

<b>SEMESTER II</b>				
<b>SN</b>	<b>CODE</b>	<b>COURSE TITLE</b>	<b>TYPE</b>	<b>CV</b>
1	BRP 498	Bachelor Research Project	C	18
2	FBT 408	Carbohydrates, Lipids and Proteins Science and Technology	E	6
3	FBT 406	Alcoholic and Non-Alcoholic Beverages	E	6
4	ANS 414	Animal Breeding and Genetics	E	6
5	ANS 416	Animal Health and Disease Control	E	6
6	CSS 402	Food and Cash Crop Production	E	6
7	IPM 402	Integrated Pest Management	E	6
8	AEC 412	Economics of Agro-Industries	E	6
<b>Total</b>				<b>36</b>

***Note:** Each student must select from one to three elective course (s) in one of the optional programs offered to meet the minimum credit load requirement (30 credits ) and without exceeding the maximum requirement (36 credits) for a semester.*

## LEGEND

### COURSE CODES

- ❖ **AEC** = Agribusiness and Extension
- ❖ **AGR** = Agriculture
- ❖ **ANS**=Animal Science
- ❖ **BRP** = Bachelor Research Project
- ❖ **CSS**= Crop and Soil Science
- ❖ **ENP** = Entrepreneurship
- ❖ **FBT**=Food Science and Biotechnology
- ❖ **ICT**= Information and communication technology
- ❖ **IPM** =Integrated Pest Management
- ❖ **MAT** =Mathematics for Agriculture
- ❖ **MSR**= Methodology of Scientific Research
- ❖ **ENG**= English
- ❖ **FRE**= French
- ❖ **PHY 102** = Physics
- ❖ **SCS** = Catholic Studies
- ❖ **VOL**= Volunteerism
- ❖ **SPT**= Sport



*Pineapple production Wokaka farm*

### COURSE STATUS

Courses mark with **C** = Compulsory, **E** = Elective, **U** = University Course

### III.3. MASTER OF SCIENCE DEGREE

#### MASTER I (LEVEL I) AND II (LEVEL II)

##### III.3.1. Common courses for all specialties

SN	Titles	Code	Status	Credits
1	Bio-Statistics/Bio-Informatics	BIO 501	C	6
2	Genetic engineering and Molecular Biology (all except Sustainable Agriculture Students)	BIO 503	C	5
3	Organic Food Production and chain management	OAG 501	C	5
4	Organic Standards and Certification	OAG 503	C	5
5	Bioethics	OAG 505	C	5
6	Advanced Research Methodology	MRP 502	C	5
7	Research Grant Writing	MRP 601	C	6
8	Special Topics/Seminars and Conferences	MRP 602	C	8
9	Thesis Project and Defense	MRP 606	C	30
<b>Total</b>				<b>75/70</b>

##### III.3.2. SPECIALTIES COURSES

###### III.3.2.1. Organic Livestock Husbandry and Breeding (OLHB)

SN	Titles	Code	Credits	Status
1	Quantitative genetics	LHB 502	C	5
2	Reproduction and caring of young animals	LHB 504	C	5
3	Livestock Selection and Breeding	LHB 506	C	5
4	Livestock Housing in Organic farming	LHB 501	C	5
5	Physiopathology	LHB 508	C	5
6	Animal health management in organic farming	LHB 510	C	5
7	Animal Nutrition and Feeding	LHB 601	C	5
8	Grazing and grassland management	LHB 603	C	5
9	Organic livestock production	LHB 605	C	5
<b>Total</b>				<b>45</b>

### III.3.2.2. Nutrition and Food Quality (NFQ)

SN	Titles	Code	Status	Credits
1	Advanced Food Microbiology and Toxicology	NFQ 502	C	5
2	Food Processing	NFQ 504	C	5
3	Functional Foods and Nutraceuticals	NFQ 510	C	5
4	Food Formulation and Sensorial Evaluation	NFQ 601	C	5
5	Nutrition Education	NFQ 508	C	5
6	Nutritional Needs and and Therapeutic Nutrition	NFQ 603	C	5
7	Advanced Nutrient Metabolism	NFQ 507	C	5
8	Food Analysis Methods	NFQ 506	C	5
9	Experimental Design and Optimization	NFQ 609	C	5
<b>Total</b>				<b>45</b>

### III.3.2.3. Organic Crop Production

SN	Titles	Code	Credits	Status
1	Soil microbiology and fertility in Organic farming	OCP 501	C	5
2	Organic Crop production Systems	OCP 503	C	5
3	Sustainable management of pest and diseases	OCP 502	C	5
4	Organic and Low Input Systems	OCP 504	C	5
5	Climate Change	OCP 506	C	5
6	Advanced Plant breeding	OCP 510	C	5
7	Crop variety characteristics and testing	OCP 601	C	5
8	Advances in Crop Protection	OCP 603	C	5
9	Soil analysis and preservation	OCP 605	C	5
<b>Total</b>				<b>45</b>

### III.3.2.4. Sustainable Agriculture and Development

SN	Titles	Code	Status	Credits
1	Sustainable Plant Production Systems	SAG 501	C	5
2	Communication and Technology transfer for Sustainable Agriculture	SAG 504	C	5
3	Sustainable Livestock Production Systems	SAG 503	C	5
6	National and International Agricultural Marketing	SAG 601	C	5
5	Strategic Management and Planning in Agriculture	SAG 603	C	5
4	Agriculture Technology for Developing Countries	SAG 609	C	5
7	Agricultural Product Processing and Marketing	SAG 506	C	5
8	Sustainable Utilization of Natural Agricultural Resources and the Environment	SAG 502	C	5
9	Farm Management for Sustainable Agriculture	SAG 508	C	5
10	Rural Agricultural Extension: Issues and Concepts	SAG 510	C	5
<b>Total</b>				50

#### LEGEND:

LHB=Livestock Husbandry and Breeding

NFQ=Nutrition and Food Quality

SAG=Sustainable Agriculture and Development

OCP=Organic Crop Production

BIO= Biosciences

OAG= Organic Agriculture

MRP= Master Research and Project



*Field trips*





## **SECTION IV**

### **GRADING SYSTEM/EVALUATION SYSTEMS/GRADUATION REQUIREMENT/PROFESSIONAL TRAINING**



## IV.1. GRADING SYSTEM

Courses can be graded in two forms: by percentage and by grade points. In terms of percentage, a course is considered pass when a score of 50% or more is obtained. Based on grade points, grading system for a course as well as the entire degree program runs from a scale of 4.00 (A grade) through 0.00 (F grade). Table 2 presents a summary of the course grading system. For individual courses, this scale includes such options as Incompletes, Withdrawals, Passes and Fails. A student must score a grade of 2.00 or more to earn credits for a given course.

The school sticks to high standards and control in its teaching and conduct of examination. Examination questions are vetted internally by the school and externally by the mentor university, the University of Buea thereby ensuring quality and relevance. The students of the school have been making remarkable attempts to engage in the concept of Entrepreneurship and Economy of Communion as evidenced in the several projects that have been undertaken by different student groups.

**Table 3:** Course grading system in CUIB

<b>Total marks earned /100</b>	<b>Grade</b>	<b>Grade Point</b>	<b>Evaluation</b>
<b>80 – 100</b>	A	4.00	Excellent
<b>70 – 79</b>	B+	3.50	Very Good
<b>60 – 69</b>	B	3.00	Good
<b>55 – 59</b>	C+	2.50	Fair
<b>50 – 54</b>	C	2.00	Average
<b>45 – 49</b>	D+	1.50	Below Average
<b>40 – 44</b>	D	1.00	Poor
<b>00 - 39</b>	F	0.00	Fail

## IV.2. EVALUATION SYSTEMS

### ✓ For the BSc

The Continuous Assessment represents of 50 percent and the exam 50 percent. The CA is partitioned as follow: Attendance: 10 marks; portfolio: 10 marks; Assignments and Presentation: 10 marks; and finally a written CA 20 marks.

### ✓ **For the Associate degree**

The Continuous Assessment represents of 70 percent and the exam 30 percent. The CA is partitioned as follow: Attendance: 10 marks; portfolio: 10 marks; Practicals: 20 marks; Assignments and Presentation: 10 marks; and finally a written CA 20 marks.

### ✓ **For the Master**

The Continuous Assessment represents of 50 percent and the exam 50 percent. The CA is partitioned as follow: Attendance: 10 marks; seminars: 20 marks and written CA 20 marks.

## **IV.3. Sanctions for violation of registration and course related requirements**

- ✓ A student who abandons his/her studies for four consecutive weeks without just cause shall be suspended. Such a student shall have to re-apply for re-admission.
- ✓ A student who absents him/herself for two consecutive semesters without just cause shall automatically forfeit his/her status as a student. In cases of justifiable absences, the student should first of all notify the school authorities in writing.
- ✓ In case of indefinite ill health or suspension of studies, the student must apply for permission to the Dean and receive approval before he/she can stop classes.
- ✓ Any student who pays the first instalment of fees and registers for the first semester but do not show up for the second semester and fails to complete the second instalment without any justifiable reasons duly written and submitted to the School, is not allow to request for any document from the University.
- ✓ Any student who registers for courses but fails to sit for the corresponding examinations for no just cause shall score zero in the course(s) for which he/she registered.

For a candidate to be qualified to sit for an examination in a course, he/she must have attended at last seventy five percent (75%) of lectures, tutorials, practicals and farm practice (where applicable) in that course.

## **IV.4. Procedure for adding or dropping of courses**

- a) The time limit within which students shall be allowed to add or drop courses on their list of registered courses shall be two weeks from the start of lectures.
- b) Students who wish to change School or to transfer to another School shall be required to fulfill the requirements for entry into the new School, except as otherwise recommended by the School Board and approved by Senate. A student authorized to transfer from one School or Department to another shall be credited with those courses where a pass mark

was obtained which are within the curriculum of the new program as the Department or School may consider acceptable.

- c) Applications for change of programs shall be considered at the end of the academic year and shall only take effect from the beginning of the next academic year after approval by the Senate.

#### **IV.5. Graduation requirements**

##### **✓ For the BSc**

To obtain a Bachelor's degree from SANR, a student must successfully complete the requirement from the major sections (university requirements, core courses, farm practice and internship) and scored up to a minimum of 240 credit hours. One credit course being equivalent to a period of 10 contact hours as defined by the European Credit System. The student is encouraged to take the number of credit units indicated by the school per semester. He/she must take and pass all compulsory (core) courses. Elective (optional) or concentration courses should be selected by the student.

These 240 credits are earned across seven different subject streams as follow: General University Requirements, Science, Foundations of Agriculture, Core courses, Concentration courses, electives and Projects (farm practice/ entrepreneurship /internships/Bachelor's Projects). The areas of concentration are Agronomy, Animal Sciences, Food Science and Agribusiness and extension.

##### **✓ For the Associate Degree**

To obtain an Associate degree from SANR, a student must successfully complete the requirement from the major sections (university requirements, core courses, Agricultural Field Experience and internships) and scored up to a minimum of 120 credit hours. One credit course being equivalent to a period of 10 contact hours as defined by the European Credit System. The student is encouraged to take the number of credit units indicated by the school per semester. He/she must take and pass all compulsory (core) courses. Elective (optional) or concentration courses should be selected by the student.

##### **✓ For the MSc**

To obtain Master of Science from SANR, a student must successfully complete a minimum of 120 credit hours. One credit course being equivalent to a period of 10 contact hours as defined by the European Credit System. The student is encouraged to take the number of credit units indicated by the school per semester. He/she must take and pass all compulsory (core) courses and must have presented his seminars, research proposal and defended his/her Thesis.

## IV.6. Degree classification

CUIB follows the American System in the classification of its Degrees as shown below: Any student whose G.P.A shall be between 3.6 and 4.00 shall be put on the Dean's List.

**Table 4:** Degree Classification

GPA	Class of Degree	American Classification
3.6 -4	First Class	Summa Cum Laude
3.00 – 3.59	2nd Class Upper division	Magna Cum Laude
2.50 – 2.99	2nd Class Lower division	Cum Laude
2.01 – 2.49	3rd Class	Bene Probatus
2.00	Pass	Probatus
Less than 2	Unclassified	Non – Probatus

## IV.7. Professional training in agriculture

### IV.7.1. Internships/Practicals

Internships make up part of the professional training where students interact with and learn on a day-to-day basis from local farmers, researchers, technicians, experts in various domains of agriculture and natural resources.

The essence of the internships is to enable students witness and put into practice/ experience the practical reality of what they have been taught. It gives them a practical appraisal of the course programs hence blending theory with practicals. The internship helps the students get a professional experience in the domain of specialization.

Internships are carried out at the end of each academic year, after the 2<sup>nd</sup> semester examinations, and run as follows:

#### ❖ *Initiation Internship*

At the end of the first year, the freshmen undergo an initiation. During this period the students are attached to local farmers over a period of 30 working days (six weeks). They are also required to meet professionals from various agricultural related services that impact on the lives of the farmers e.g. extension services, veterinary officers, food technology industries, NGOs etc.

#### **Objectives:**

- ✓ Familiarize themselves with the daily activities of a farmer.
- ✓ Get exposed to various types of agricultural career opportunities in the locality.

### ❖ *Pre-professional Internship*

Sophomores undergo a pre-professional internship for 45 working days (two months). This done during the long vacation in which students are encouraged to seek placement in an agricultural related company – research centers and broad-based agro-industry.

#### **Objectives**

- ✓ Expose students to various types of agricultural research being carried out in the research stations.
- ✓ Give students a feel of agricultural research procedures and documentation

### ❖ *Work Experience Internship*

Juniors year student undergo a Work experience internship for 80 working days pertaining to their field of specialization. Placements for internships are done by the school, in collaboration with the CUIB Outreach & Engagements directorate. However, suggestions are welcome from the students. The junior year internship is officially supervised at the end of which students present the report to a panel for grading.

#### **Objectives:**

- ❖ Gain skills, knowledge and experience in their area of interest.
- ❖ Trained to identify problems, critically analyze and propose solutions.

**NB:** Students must submit a report at the end of each level of internship to the school and to the institution where internship was done.

### ❖ *Farm Practice and Agricultural Field Experience*

Identification of farm implements and their uses for: land preparation, planting, fertilizer application, pest control, harvesting, processing and Storage; Identification of soil types and their characteristics, fertilizer types, farm survey equipment and their uses; Introductory principles of laying out field plots or laying out a farm. Crop production layout, seed selection and treatment for planting.

Rotations beneficial to the farmer and soil management forms of organic manure: Cover cropping, green manuring, composting; Data collection and analysis, observations, record-keeping in a farmstead; Participation in activities within a farm. Livestock/animal housing, acquaintance with animal breeding, field implements.

Field trips to fishery industries and intensive crops and livestock farms may be done. Mechanized agricultural notions, mensurations and other practical approach to forestry are also covered.

### IV.7.2. Entrepreneurial Project

To give students additional preparation in becoming self-reliant/employed upon graduation, students are required to undertake and be involved in entrepreneurial projects. During their freshman year, the students receive lectures on how to identify a project develop proposals, and draw business plans that will attract funding. They work in groups (base groups) to initiate and develop a business plan by brainstorming on business opportunities. Students are encouraged to select projects related to any of the major subject matter in the different agricultural fields of the school. The business plan idea is then presented before a jury for the evaluation of its feasibility and financial worth.

Upon approval, the students then set up the business and may choose to continue to the junior year based on the maturation cycle of the project opted for. If these are relatively short cycle products e.g. snail rearing, students may be encouraged to undertake another project. Three (3) hours/day of the students' time is dedicated to the running of the business. Students must present reports on how their business is running at the end of each month and a comprehensive report before the end of each semester.

This is to enable students have a hands-on approach towards their studies, being able to conceive, operate and management and access project. Thus upon graduation they should be able to run one and not necessary depend on working for somebody or an institution. This is to impact on students the ability to do independent work with the guidance of a faculty

### IV.7.3. Volunteerism

All students undertake this compulsory activity that requires a total of 100 volunteer hours before graduation. This is to build a sense of social responsibility and citizenship in the students. Volunteerism is to show how the students can build their communities and country as well as build networks, developing their curriculum vitae and learning cultures or extending learning beyond the classroom. It builds in the students' a sense of stewardship.



*Research work on Cocoyam*



*Tomatoes harvesting from a student plot*





## SECTION V

# COURSES DESCRIPTIONS





## **V.1. ASSOCIATE OF SCIENCE DEGREE**

### **AFC 101 Linear Algebra**

The course will focus on the study of functions through multiple representations - verbal, graphic, symbolic, and numeric. Using the basic function families: linear, absolute value, polynomial (square, square root, cube, cube root, higher degree), rational, exponential, and logarithmic, we will analyze relationships among the representations. Additional topics studied include linear systems of equations and matrices.

### **AFC 103 General Chemistry**

The course will cover basic chemical and scientific concepts and applications. Topics covered in the course include matter and energy, atoms, ions and compounds, stoichiometry involving reactions, electronic structure of atom, states of matter including solutions, acids and bases, a brief introduction to nuclear and organic chemistry.

### **AFC 105 General Biochemistry and Microbiology**

Structure and function of biological molecules, especially proteins, lipids, nucleic acids and carbohydrates. This course covers principles of microbiology and the impact these organisms have on man and the environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms.

### **AFC 107 Introduction to ICT**

This course is designed to serve as a comprehensive introduction to Information Technology (IT). The course focuses on fundamentals that provide students with a considerable foundation in order to use and understand the general functioning of IT tools. The first module of the course provides an introduction to the history of computers and IT. The second module focuses on the architecture and the functioning of computers primary memory, secondary storage, input and output devices, and others. The third module introduces operating systems and their role in computer systems. The fourth module deals with the numbering systems. The fifth module provides a foundation on algorithms and programming. The sixth module deals with data communication and computer networks then explores the Internet and its tools such as browsers, electronic mail and search engines.

## **AFC 102 Agricultural Mechanics and Electricity**

An introduction to agricultural power and machinery (engines, power transmission including hydraulics, tillage machinery, calibrations, and harvesting equipment), agricultural electrification and applications (circuits, motors, controls, and materials handling and processing), agricultural structures (plans, loads, construction materials and layout and design), and soil and water conservation (surveying, mapping, drainage and conservation structures).

## **AFC 104 Plant and Animal Biology**

This course emphasizes on the principles, main concepts and inter-relationships among living organisms. The study of plant and animal cells as the fundamental structural and functional unit of living organisms: plant and animal cell morphology, cellular movement, related organelles and their functions, biological molecules and how they interact shall be discussed. Functioning of the whole organism and its component organ systems shall also be addressed.

The importance of the molecular components with respect to plant and animal growth and development shall also be of interest. Some fundamental processes of living organisms such as acquisition, distribution, storage, and allocation of energy and materials, and the mechanisms involved in growth, development and reproduction shall be discussed.

Practical lessons shall be focused on

- Plant intercellular movements. (Osmosis, Diffusion).
- Identification of plants and animal organs, their morphology as well as their functions.

## **AAG 102 Organic Crop and Animal Production**

The course is designed to enable learners acquire an understanding of organic crop and animal production and their potentials in Agriculture. Fundamental principles and technologies of organic crop and animal production and organic agricultural production practices shall be discussed. The use of organic and microbial fertilizers, natural chemicals, biological control methods as well as the impact of livestock production on the environment will be of interest. Students will gain practical experience as they use animal waste to grow crops as well as employ natural methods to control pests and diseases.

## **AFT 108 Principles of Human Nutrition and Dietetics**

Principles of Nutrition introduces the students to the basic principles of nutrition across the human lifespan. They will learn the role and function of nutrients, nutritional requirements including deficiency and toxicity, food sources of nutrients and common serve sizes of foods. The second half of the course covers special nutrient needs of people across the lifespan, through pregnancy and lactation, infancy, childhood and adolescence, maturity and ageing. The role of diet in the development of chronic diseases, such as cardiovascular disease, cancer, diabetes, etc will also be discussed.

### **AHS 102 Land and Labor Law**

This course examines the legal principles relating to real property in Cameroon. The main topics covered include: the nature of title to land, estates and interests in land, the physical extent of a landowner's rights, the effects of registration and indefeasibility of title, concurrent ownership, leases, methods of ownership of flats and offices, easements and profits, covenants, the use of land as security and customary title claims. It also introduces the basic concepts related to labor law, particularly with labor standards and labor relations.

### **AFC 106 Scientific Writing and Communication**

The first part of the course is designed to familiarize students with all the different facets of doing academic research and writing academic texts. It explains the fundamental techniques of writing essays, theses, journal articles, abstracts, and applications. The second part offers clear guidelines for structural and rhetorical layout of presentations, effective handling of PowerPoint, authentic non-verbal communication and efficient preparation of performances, speeches, and meetings.

### **AAG 104 Agricultural Field Experience I**

The students will learn practical farming skills such as mixing feed, land preparation, using fertilizers, pesticides and other daily duties as assigned by the farm manager. Students will keep a daily journal of their experiences and develop proficiency in basic farm skills. This course helps to bridge the gap between classroom theory and practice. Emphasis will also be on observation of and participation in school and community organizations and programs.

### **ABU 201 Fundamental of Business Economics**

This course provides an introduction to basic economic concepts and analytical techniques. It considers the analysis of choices made by individual decision-making units (households and firms) and the analysis of the economy as a whole. The topics to be covered include the subject matter of economics. It looks through the meaning of economics and its various definitions, basic economics problems, and the principles of resource allocation, market demand and supply, price determination and elasticity, theory of consumer behavior, theory of production, market structure price and output under perfect competition; monopoly; monopolistic competition and oligopoly. Economists believe that economic analysis can help in making better decisions concerning career, financing the home, agricultural projects and other important matters.

### **AFC 203 Statistics and Probabilities**

This course provides an elementary introduction to probability and statistics with applications. Topics include: basic combinatorics, random variables, probability distributions, Bayesian inference, hypothesis testing, confidence intervals, and linear regression.

### **AAG 201 Agricultural Soil Management**

This course explain the basic principles and concepts of soil management that provide a sustainable environment for agricultural productivity. It also describe how agricultural and ecological systems are linked to soils and the environment. Components of soil and their interrelationships as well as functions of soils (to plants, man and environment), Properties of soil (physical, chemical and biological), soil quality, soil microbial life, management of fertility, water use efficiency, soil nutrition, soil conservation and soil degradation practices shall be discussed. Factors and processes in soil formation, development as well as agricultural practices influencing soil management such as cultural practices and environmental problems that affect soil quality shall be discussed.

### **AAN 201 Aquaculture and Aquaponics**

The purpose of this course is to develop an understanding of commonly used culture systems, to become familiar with the fundamentals of fish and shellfish husbandry, and to gain an appreciation of aquaculture's roles in natural resource management, the human food supply, and the global economy. In addition, this course explores the specific ecology of small crop plants as well as aquarium ecosystems and aquaculture. Students will build and operate a closed aquaponics system that utilizes game fish such as catfish, bluegill, or tilapia. In addition, students will plan, design, create, and operate their own smaller aquaponic farm models.

### **AAG 203 Environmental Science**

This Science Exploration course is an examination of the science of environmental problems, processes, and solutions. Students will explore the interrelationships of the natural world, the environment, and impacts from humans. Specific topics will include land, air, and water pollution; biodiversity; global climate change; energy; public health; and sustainability.

### **AFT 203 Processing and commercialization of Organic Agricultural Products**

The first part of this course present the different processing and preservation techniques of Agricultural products. The second part will be focused on: Basics-definitions. Production-consumption, marketing, concentration, processing, distribution, sales, transport, standardisation, packaging, storage, finance, market, research, promotions. The market -prices-offer and demand. Analysis of trade problems. Co-operatives and marketing.

### **AAG 204 Sustainable and Organic Agriculture**

**Section I: Sustainable Agriculture** In this section, the Principles of sustainable agriculture are discussed. The student learns how to carry out sustainable agricultural practices for production while maintaining the balance between profit making, environmental welfare and social equity with respect of policies and regulatory framework. The role of selected bio-convertors either animals, crops or microorganisms to optimize waste conversion into soil nutrient and fertility

restoration will be exposed and discussed. This transition seeks to maintain the standards of quality and levels of production in selected crop and animal varieties. This course will be covered through lectures, field practical demonstrations and visits as opportunities arise.

**Section II: Organic Agriculture** This section includes theory and farm practice. Students will be exposed to the scale of the organic industry today, including the factors driving interest in organics for both producers and consumers. The foundational principles underlying contemporary organic agriculture will be presented and first-hand experience of current organic practices will be provided. In addition, this course will rely on small group mentoring to stimulate independent, learner-centered analysis of selected topics in organic agriculture. The knowledge on the production of natural fertilizer and microorganisms to improve crop production as well as biological substances to control plant diseases will also be addressed. Students gain practical experience as they process animal and plant waste to grow crops or employ natural methods to control pests and diseases.

### **AAG 206 Plant Diseases and Management**

The course deals with the identification and classification of major field pest and diseases. Survey of plant pest and diseases, symptoms, and the different techniques commonly used in plant pest and disease diagnosis, methods of pest and disease control and economic importance of crop pest and diseases. Practical experience for students will focus on identification of pests and diseases and symptoms on students' plots and farmers' fields in the community, utilization of natural methods in controlling the identified pests and diseases.

### **AAG 209: Agricultural Field Experience II**

The students will learn practical farming skills such as mixing feed, land preparation, using fertilizers, pesticides and other daily duties as assigned by the farm manager. Students will keep a daily journal of their experiences and develop proficiency in basic farm skills. This course helps to bridge the gap between classroom theory and practice. Emphasis will also be on observation of and participation in school and community organizations and programs.

### **AAN 202 Animal Nutrition and Feeding**

The focus in this course is on digestion, absorption, and metabolism of feed and how the different dietary components/nutrients are assimilated into products or used to maintain life. Coverage of feed quality and evaluation of feed will be provided in order to compliment the learning of the key aspects of nutrition taught in this course. In order for a feed to be utilized by an animal, it has to be palatable to be consumed, digestible to be broken down into a small units, absorbable to enter the body and metabolisable to be utilized into energy and structural components.

### **ABU 204 Fundamentals of Accounting**

This course provides an introduction to the objectives, principles, assumptions and concepts of financial accounting. It focuses on procedures and practices from the accounting cycle through financial statement presentation with an emphasis on recognizing, valuing, reporting, and disclosing assets, liabilities, and equity. This course presumes no previous accounting knowledge.

### **ABU 206 Agricultural Project Management**

At agribusiness, from the entrepreneurial project at rural area point of view, it is very important to know the principles for project planning, application for financing, as well as local sustainable development plans. The business strategy for most of business subjects is based at development projects. For successful project preparation and implementation there is need for good project organization that manages project process at all phases, from strategic preparation to the final goal. The aim of this module is to learn the student theoretical basis of project management, finance and investments in agribusiness, developing projects and investments at local theory and practice. Lectures will process the specificity of financing and investment at agricultural projects, the basics of financing and decision making about investment of small and medium companies in agribusiness, planning process, preparation and implementation of agribusiness investment project.

### **AEN 202 Professional Project**

The students will prepare an insertion project that he/she intend to carry out in the society as business. The project can be related to the following Agricultural fields: Food Science, Agronomy, Animal Science and Agribusiness. The students, under the guidance of a Lecturer/Associate Professor/ Professor/Professionals...will prepare the project and defend in front of a panel.

## **V.2. BACHELOR OF SCIENCE DEGREE**

### **MSR 101 Introduction to Methodology of Scientific Research**

This course aims to introduce undergraduate (freshmen) students to the basic guiding principles and procedures in carrying out scientific research as well as writing research papers. It will equip students with skills and knowledge on how to report research project, teach the fundamentals of effective scientific writing and demystify the process of scientific writing. In summary, the course will enable undergraduate students to become novice researchers and writers, and encourage them to continue looking for opportunities to further develop their writing and research skills beyond this course.

### **MAT 101 Mathematics for agriculture**

Mathematics for Agriculture introduces fundamental mathematical concepts such as algebra, statistics, measurements and units, combinations and permutations probability and linear equations. It provides a foundation for other courses in applied science and agricultural science programs. This course is designed to show how mathematical equations such as algebraic equations, ratios, formulas, measurement, and analysis of data can be important in solving agricultural problems. This course will enrich the students' enthusiasm for mathematics based on their agricultural interests.

### **AGR 101 Chemistry for Agriculture**

The course will cover basic chemical and scientific concepts and applications. Topics covered in the course include matter and energy, atoms, ions and compounds, stoichiometry involving reactions, electronic structure of atom, states of matter including solutions, acids and bases, a brief introduction to nuclear and organic chemistry.

### **AGR 103 General Agriculture /Farm practice**

This course includes both general knowledge in Agriculture and Farm practice. The General knowledge is centered on Current issues and trends in Agriculture with focus on Cameroon within Africa and the World. Agriculture and Development, Gender issues, subsistence agriculture, commercial and modern agriculture, environmental factors affecting agriculture, agricultural policies, and integrated approach to agriculture, farm tools and implements. The practical aspect of this course is based on land preparation both manual and mechanic and nursery production.

### **AGR 105 Agricultural Biology**

This course emphasizes on the principles, main concepts and inter-relationships among living organisms. The study of plant cells as the fundamental structural and functional unit of living organisms: cell morphology, cellular movement, Basic chemistry, interaction, ultra-structure, related organelles and their functions, biological molecules and how they interact shall be discussed. The various types of cells, their Structure and functions as well as cell regulation shall also be addressed. The importance of the molecular components with respect to plant growth and development shall also be of interest. Practical lessons shall be focused on plant intercellular movements. (Osmosis, Diffusion).

### **ICT 101 Introduction to ICT**

This course is designed to serve as a comprehensive introduction to Information Technology (IT). The course focuses on fundamentals that provide students with a considerable foundation in order to use and understand the general functioning of IT tools. The first module of the course provides an introduction to the history of computers and IT. The second module focuses on the

architecture and the functioning of computers primary memory, secondary storage, input and output devices, and others. The third module introduces operating systems and their role in computer systems. The fourth module deals with the numbering systems. The fifth module provides a foundation on algorithms and programming. The sixth module deals with data communication and computer networks then explores the Internet and its tools such as browsers, electronic mail and search engines.

### **AGR 102 Physics for Agriculture**

The student develops the ability to apply the scientific processes in his/her daily activities, analyzes basic physical concepts and their relevance to Agriculture. The course deals with electricity and mechanic including vectors, light, statics, force, power and work.

### **AGR 104 Initiation Internship in Agriculture**

This is a one month internship during which the student is attached to a farmer through an extension agent assigned by the delegation of agriculture in their respective regions. The student works closely with a rural farmer on special farm projects (plants, animals). He/she studies the agricultural environment in which the farmer operates with some emphases on the different agro-economical and agricultural activities such as the cropping systems. The student becomes more sensitive to the plight of the rural farmer, better understands and acquaints him/herself to the realities of rural agriculture. Each student at the end of this internship submits a report of the different discoveries, contributions and achievements made during this period.

### **AGR 106 Plant propagation and Farm practice**

This course is made up of theoretical sessions and farm practice. The Theory is centered on plant anatomy and principles of plant multiplication (grafting, cuttings, layering...). The practical methods focus on vegetative plant propagation of various plants including plantain, yam, pineapple, macabo, cassava, and onion...Teaching tools will include workshops, documentaries, publications and field trips.

### **AGR 118 Principles of Genetics and Molecular Biology**

This course is organized in two sections:

**Section one:** Principles of genetics which deals with Mendelian principles and laws and their consequences in population genetics, molecules of heredity and their applications in animal and crop breeding. Uniformity, segregation and independent assortment, mono and di-hybridism-DNA and chromosomes, gametes formation and crossing over, the mechanism of the conservation of the chromosomal constance will be discussed in details. Cell cycles and live cycles, monoploidy, haploploidy, diploidy and polyploidy shall be discussed with examples.



**Section two:** This involves principles of molecular biology including the structure, function and duplication of the DNA molecule, as well as its transcription into RNA and from RNA to Protein via translation. The enzymes and Nucleic Acids involved shall be discussed.

### **AGR 108 Introduction to Ecology and Natural Resources Management**

This course examines the complex interrelationships between organisms and the natural world. Community and ecosystem ecology are emphasized as they relate to evolution and biodiversity, resource acquisition and resource utilization within an ecosystem. The principles of the sustainable management of environmental resources. The importance of the environment in agricultural systems, problems associated with the use/misuse of our natural resources and current management practices associated with their conservation as well as the impact of agricultural activity on the environment and vis-versa shall be discussed. Delivery methods include lectures, Laboratory and practical courses including workshops, films and field trip.

### **CSS 201 Soil Science and Fertility**

This course introduces the student to the study, management, and conservation of soils as natural bodies, as media for plant growth, and as components of the larger ecosystem. It presents basic concepts of all aspects of soil science including; composition and genesis; physical, chemical, and biological properties; soil water; classification and mapping; soil conservation; management practices; and soil fertility and productivity (soil testing, use of fertilizers and manures, and liming). It introduces the relationships of soil to current concerns such as environmental quality and non-agricultural land use. This course should instill awareness of soil as a basic natural resource, the use or abuse of which has a considerable influence on human society and life in general. These will be achieved through lectures and hands-on activities in the lab and field.

### **FBT 201: Nutrition Biochemistry and Metabolism**

This course introduces the student to have the basic knowledge in nutritional biochemistry and metabolism such as the classes of food, the nutrients present in food and their functions, their digestion and absorption, the antinutrients in foods and their removal methods, the analysis of the nutrient composition of food and evaluation of their energy values, the nutritional assessment of an individual, the nutritional diseases and the introduction to metabolism of macronutrients..

### **ANS 215: Animal Anatomy, Physiology and Ethology**

This course is aimed at teaching students the general principles of animal anatomy, physiology and ethology. It gives students an understanding of how to design facilities to make moving and training easier for both livestock and their handlers. **Section I:** This section covers the principles of organ and tissue structure, operation, function, regulation, and integration of domestic farm animals. Examines mechanisms and processes of growth and development, reproduction, lactation, oviposition and effects of environmental conditions. It is an introduction to the carcass structure of cattle, pigs, sheep and poultry. Animal growth and development are considered in

relation to meat production. Homeostatic control of the major body systems including nervous, cardiovascular, respiratory, urinary, immune, endocrine and reproductive systems. The method of delivery includes lectures, videos, dissections and tutorials. **Section II:** It covers the maintenance, social and learned categories of animal behaviour, exposing students to animal handling, factors responsible for animal behaviour and the interaction between genetics and experience as they determine and affect animal behaviour. Animal welfare management for optimal production is considered.

### **ANS 207 Ruminant Animal Production and Farm Practice**

This course will enable the students to understand potentials and limitations of ruminant production to the economy of Cameroon. Carry out efficient management practices in ruminant production for optimum production and profits. The course will cover the production of small and large ruminant species including Cattle, Sheep and Goats. Their production and management practices. The course should provide a good knowledge base for ruminant animal production in Cameroon towards increase in sustainable production and food security. Practical: Identification of breeds, Identification of various housing system and equipment and familiarisation with health Management practices

### **AEC 217 Principles of Business Economics**

This course is intended to introduce second year students of the school of Agriculture some fundamental aspects of micro economic theory. It has as objective to introduce students to micro economic environment such as; the firm, household, industries and the market and the behavior of some micro indicators in these environments.

### **AEC 213 Principles of Accounting**

This course introduce the student to understand the general principles and methods of recording bookkeeping transactions relating sales, purchases, cash, balance sheet, assets, returns, etc. To prepare simple final accounts of sole proprietors, non-trading organizations, e.g. clubs; and to Interpret simple accounting records using ratios.

### **AGR 212 Sustainable and organic Agriculture**

**Section I: Sustainable Agriculture** In this section, the Principles of sustainable agriculture are discussed. The student learns how to carry out sustainable agricultural practices for production while maintaining the balance between profit making, environmental welfare and social equity with respect of policies and regulatory framework. The role of selected bio-convertors either animals, crops or microorganisms to optimize waste conversion into soil nutrient and fertility restoration will be exposed and discussed. This transition seeks to maintain the standards of quality and levels of production in selected crop and animal varieties. This course will be covered through lectures, field practical demonstrations and visits as opportunities arise.

**Section II: Organic Agriculture** This section includes theory and farm practice. Students will be exposed to the scale of the organic industry today, including the factors driving interest in organics for both producers and consumers. The foundational principles underlying contemporary organic agriculture will be presented and first-hand experience of current organic practices will be provided. In addition, this course will rely on small group mentoring to stimulate independent, learner-centered analysis of selected topics in organic agriculture. The knowledge on the production of natural fertilizer and microorganisms to improve crop production as well as biological substances to control plant diseases will also be addressed. Students gain practical experience as they process animal and plant waste to grow crops or employ natural methods to control pests and diseases.

### **CSS 202: Crop Pathology and Protection**

The Course involves identification and classification of major field pests and diseases, Survey of plant pests and diseases, symptoms, and the different techniques commonly used in plant pest and disease diagnosis, methods of pest and disease control and economic importance of crop pest and diseases. Practical experience for students will focus on identification of pests and diseases and symptoms on students' plots and farmers' fields in the community, utilization of natural methods in controlling the identified pests and diseases.

### **ANS 206: Principle of Animal Nutrition**

This course establishes the foundation for understanding animal nutrition. It covers the science of nutrition, characteristics of feedstuffs, as well as their utilization and digestion in the animal body. It will also expose students to nutrients and their interrelationships; feed evaluation including chemical analysis and feeding trials, the determination of digestibility and nutrient balance trials, feeding standards, dietary allowances and ration formulation for the various livestock species. Grazing practices as well as the management of grazing lands and forage conservation methods will be covered. The course is aimed at teaching students the general principles of animal nutrition exposing them to terminologies important in the area of animal nutrition and feeding. It will;

- ✓ Enable the students to describe the relationship between diet consumed by animals and the digestive processes throughout the gastrointestinal tract of monogastrics, ruminants, and hindgut fermenters.
- ✓ Acquaint students with feed stuffs, their availability, classification, formulation, processing and utilization.

### **CSS 216: Plant Physiology**

This course deals with the types and structure, classification and function of simple and complex compounds important for plant growth and development. Biophysical processes of transport in plants; photosynthesis, respiration and protein synthesis. Nutritional and environmental influences on crop growth, development and yield. Plant growth movements, biosynthesis, storage and mobilization of harvestable reserve in crops. Field experiment on plant growth

movements, verification of compounds using the microscope. The course will familiarize students with activities and important processes necessary for plant growth and development.

### **AGR 202: Pre-professional Internship**

This course will expose the students to acquire practical and working experience from existing enterprises or organizations. The students are expected to spend one month of internship in any Animal processing industry, Agro-industry or firm based on their area of interest. At the end of the internship, the students are expected to submit a report of the different activities carried out during this period.

### **ANS 202 Non Ruminant Animal Production**

This course comprises two sections. The first section is about the principles, skills, and practices of handling swine and managing commercial swine production. Aspects discussed include housing and pigsty management, reproduction, feeding and health of swine. It provides concepts of animal and animal-human interactions and animal behavior and practices to ensure animal and human well-being. Part two is about the principles of poultry production and management. Topics include anatomy and physiology, reproduction, incubation, embryonic development, breeding, nutrition and feeding, disease control, animal welfare, housing and environmental control, flock management, poultry and egg products and the structure of the poultry industry. Delivery methods include but not limited to class room lectures, field visits, farm practice, group work and presentation.

### **AGR 307 Irrigation, Drainage and Farm Practice**

Principles of hydraulics, drainage and irrigation systems, irrigation fixtures and apparatus. Irrigation and drainage systems design including pump sizing and specification, water distribution systems, plant water requirement, drainage systems and flood control. The student should understand the hydrologic cycle, principles and processes necessary to effectively manage water resources through well designed drainage and irrigation systems. At the end of the course, the student shall be able to advise on the appropriate techniques of both irrigation and drainage systems; enhance communication skills, and impart a sense of professional, ethical and societal responsibility gained through knowledge and discussion of contemporary issues. Methods of delivery include lectures, video and base group presentations as well as on farm activities and field trips as the opportunity arises

### **CSS 307 Plant Breeding and Genetics**

The core concept of this course will be on methods and techniques of plant breeding and improvement on the bases of genetic principles of breeding, germplasm, reproductive systems in plants and their role in breeding. The development, maintenance, and multiplication of plant breeding stock. Students will have practical sessions on methods of cross breeding involved in plants. The student understands and applies the principles of improving plants genetics. He/she learns the role of molecular biology in agriculture and develops skills for the selection of plants.

Students should at the end of this course be able to understanding genetics at both the population and molecular levels, relate to plant breeding with plant population, gain practical experience in analyzing data from genetic experiments and estimating genetic parameters and heritability for breeding purpose and differentiate the different breeding technic used in conventional and molecular breeding.

### **MAT 301 Statistics and Probabilities**

The course is aimed at giving the student the capacity to objectively collect, analyze and process data in a bit to draw reasonable inferences. It provides a foundation for other courses in applied science and agricultural science programs. This course is designed to show how mathematical equations such as algebraic equations, ratios, formulas, measurement, and analysis of data can be important in solving agricultural problems. This course will enrich the students' enthusiasm for mathematics based on their agricultural interests.

### **FBT 315 Post Harvest Technologies and Management**

The core concept of this course will be focused on the general post-harvest consideration and handling, packaging of post harvested products, handling operation of the harvested products, storage, transportation, harvest and post-harvest handling of fruits, vegetables and root crops. The objective is to understand the different post-harvest processes involved in the handling of foods, in order to prolong it shelf-life, by conserving it under recommended conditions, to reduce post-harvest losses, and to be able to know the adequate technologies to be used for handling food materials. At the end of this course, students will be expected to understand the different post-harvest processes/techniques that are involved in the handling of food products. The students are also expected to be able to either advice a farmer on the best and possible techniques to use in the handling of food materials. They are expected to be able to use and apply the knowledge learnt from this course.

### **ANS 313 Non-Conventional Animal Production**

Importance of nonconventional animal production. Types and breeds used in alternative livestock production including snails, earthworms, maggots, bees, quail, rabbit, laboratory animals and grass cutters. Their biological characteristics, their ecology, ethology and the possibility of well planned production (housing, feeding, caring and reproduction of small and useful animals for market needs. Practical classes shall include workshops of small production units of snails, rabbits, maggots and earthworms/fish bait.

### **AEC 311: Principles of Marketing**

Marketing has been defined in many different ways. Stated simply, marketing is concerned with the creation of 'value' and exchange of these 'values' between marketers and their customers. Hence, marketing refers to everything that a firm needs to place its offerings (which may include products, services or ideas) in the hands of its potential customers. This is reflected in its

definition: marketing is the business function that determines customer needs, identifies target markets that the company can serve better than its competitors, designs marketing strategy and develops plans and programs to serve these markets effectively and efficiently. Since the basic purpose of business is to create customers, the way to grow a business is through marketing. This explains why marketing has often been equated with creativity and viewed as the most important function in business. This course provides an in-depth exploration and practical application of basic marketing tools. These include product policy, pricing, promotion, distribution, sales management, and customer segmentation and retention. Marketing is a dynamic, fascinating and highly stimulating field of contemporary business studies and in this course you will be exposed to the “language of marketing” used by marketing practitioners and scholars

### **CSS 303 Weed Science and Plant Systematic**

Weed science is the scientific discipline that studies plants that interfere with human activity. Lecture topics will include: weed biology and ecology, an introduction to weed management techniques and methodologies, factors affecting weed control, environmental issues (emphasis on chemical weed control) associated with weed management. Practical work will include: weed identification and crop/weed competition. Application techniques will include effective herbicide use and current weed control practices. This course will also introduce several topics in plant evolution and systematic.

### **FBT 307 Food Technology and Microbiology**

The course presents the basics in Food Technology and Microbiology. In the first part (Food Technology), the influence of water in food stability will be discussed, followed by the chemical alterations of foods. Here, the mechanisms of reaction, the prevention, consequences and factors influencing lipid oxidation, enzymatic browning and non enzymatic browning will be taught. The course will continue with the different food processing methods and their impact on the nutritional principles. The last chapter will describe the different types of food additives used in food industry, with their beneficial and deleterious roles.

In the second part of the course (Food Microbiology), the classification and characteristics of microorganisms will be presented, followed by their nutrition and growth. The course will continue with the presentation of the different metabolic pathways of macronutrients degradation, followed by the causes and nature of microbial degradation of foods. The last chapter will discuss on the microbiological control of foods.

### **AEC 313 Fundamentals of Management**

This course is designed for non-business students who wish to equip themselves with key knowledge, skills and competences in various aspects of management. The course encompasses the core components of management. These include the following: The management process, The role of the planning, The business environment ( Ethics and Diversity Management), Planning

and the decision processes, Management of organizations, Different forms of organizational control, Leadership and team management, and Modern communication technologies in business.

### **AGR 310: Work Experience**

The students are expected to spend three months of internship in any Research center or institution, Animal processing industry, Agro-industry or firm based on their area of interest.

They may carry out their own research there in the organization or institution in which they are carrying out the internship under the supervision of the university in collaboration with the research center or organization.

This will enable the students to acquire practical and working experiences from the existing enterprises or organizations. At the end of the internship, the student writes, submits and defends in front of a panel; a report on the different activities carried out during this period.

### **AEC 409 Agricultural Extension and Rural Development**

This course introduce the students to the concept and understanding of agricultural extension and rural development and role of agricultural extension services. Students will be exposed to the institutional setting and practices of agricultural extension services and agents of the profession. Through field visits, talks and discussions with farmers, extension agents and agricultural officials, students will uncover the centrality, contributions, problems and challenges of agricultural extension and rural development to national growth and sustainable livelihoods. Through field practicum, students (in groups) will study and write a report on the relationship between the agricultural extension services and farmers in a specific village setting. The report will be informed by class lectures, readings and talks by agricultural experts.

Content: Meaning, philosophy, principles, objectives and history of agricultural extension and rural development in developing countries (especially as concern farmers' productivity and economic growth); Basic concepts, approaches and methods of agricultural extension; Principles and philosophy of extension communication, adult learning; Overview of planning, organization and management in agricultural extension; Overview of rural social structure, leadership pattern and community organization that defines rural development; Overview of the history and organization of agricultural extension services and rural development on agricultural development in Cameroon.

### **FBT 411 Human Nutrition**

The course will start by a generality on foods and factors affecting human nutrition, followed by the description of parts of the digestive system which are implicated in the digestion of food, the structures, mechanisms of digestion, absorption and distribution of macronutrients and the different enzymes involved, the sources, functions deficiencies and excess in mineral elements and vitamins, the assessment of the nutritional statut of an individual and finally the nutritional diseases.

### **ANS 409 Integrated Livestock Production Systems**

Principles of Livestock and Fish based Agricultural practices and systems with focus on sustainability. Post-harvest management and transformation of food crop and feed crop, the management of the system including the production environment, livestock and aquaculture, feed crops, waste and energy as well as the labelling and distribution of products shall be discussed.

### **FBT 407 Food Safety and Quality Control**

The followings shall be discussed: food quality assurance and food safety, quality programs and quality systems for food industry, good manufacturing processes and HACCP prerequisite programs, as well as the HACCP system for food safety. The student should learn the vocabulary of food quality assurance, understand the concept of food safety and food quality, the quality components, types of hazards in foods, the quality system for the food industry, the GMPs and HACCP prerequisite programs, the importance of HACCP system on food safety. The student should also be able to do a critical analysis of any industrial or local production system. At the end of this course, students should have good knowledge on the basic principles of Food safety and Quality control. They should be able to determine critical control points in the manufacturing process of any food and indicate how the danger can be eliminated. He/she should have good knowledge of Good manufacturing processes, and the different types of foodborne illnesses.

### **ANS 415 Principles of Aquaculture and Fisheries**

This course will acquaint students with the theory and practice of aquaculture. The course is designed to provide a general understanding of aquaculture and more specifically to explain the unique aspects associated with raising animals in an aquatic environment, to present an overview of important water quality variables and the factors which affect them, to present ways of increasing production levels in aquatic systems including different forms of fertilization and prepared feeds, to give an overview of the general concepts involved in transporting aquatic organisms and finally to present an overview of the reproduction, grow-out, harvest, and processing of a number of important aquaculture species.

### **AEC 413 Project Management**

This course is designed to introduce senior year students of the school of agriculture to techniques in setting up project plans, schedule their work plans and monitor progress in order to achieve desired project results. The students are equipped with some basic techniques on how to set up project plans, schedule their work plans and track progress and finally evaluate the success of the project.

### **AEC 412 Economics of Agro-industries**

The course enlightens the students on the role of industries for economic development, policies and growth of Agro-based industries; performance of small & large scale industries; efficiency, productivity and capacity utilization; Overview of industrial policies, Quantitative & Qualitative restrictions, tariff, protection; tax concessions and export subsidies, Role of public and private



sectors in rural industrialization; problems of agro based industries. At the end of the course, the students are expected to;

- ✓ Draw up an agro industrial models for sustainable growth and inclusion of local farmers
- ✓ Develop a systematic plan to support women participation in the Agro-industry.

### **BRP 498: Senior year research project**

At the end of the 4<sup>th</sup> year, each student must undertake a mandatory special research project on a chosen research topic in any of the areas of specialization in the program (Agronomy, Animal Sciences, Agribusiness and Extension, Food Science and Biotechnology). The research is carried out under the supervision of a faculty member. Upon completion, he/she must submit the project report and defend it before a jury, to be eligible for graduation.

### **FBT 408 Carbohydrates, Lipids and Proteins Science and Technology**

This course will be made of three different parts. **The first part will discuss on** lipid science and technologies: chemistry and properties of lipids, lipid processing (extraction, analysis, refining, fractionation, storage, hydrogenation, inter-esterification, trans-esterification), lipid oxidation (mechanisms, consequences, prevention), and application of lipids in food industry. **The second part will discuss on carbohydrates science and technologies:** chemistry and properties of carbohydrates, carbohydrates processing (Extraction, analysis, stabilization, starch gelatinization, starch retrogradation and starch pasting), and food application of carbohydrates. **The third part will discuss on proteins science and application:** Protein structure and properties, protein processing (method of protein extraction and separation, proteins characterization procedure and protein analysis), and food application of proteins.

### **FBT 406 Alcoholic and Non-Alcoholic Beverages**

This course covers alcoholic beverages and non-alcoholic beverages. Part one introduces alcoholic beverages including wines processing, beer processing, spirit processing and the beneficial and deleterious effects of alcohol on health. The differences between alcoholic and non-alcoholic beverages, the classification of alcoholic beverages, the principle of vinification, the wine making processes, wine bottling, closure and storage, beer production process, storage and stabilization, the different types of spirits, their processing method and storage, the impacts of alcohol on health (beneficial and deleterious effects) are discussed. Part two discuss on non-alcoholic beverages. General introduction on non-alcoholic beverages, fruits juices processing, soft drinks processing, tea and coffee drinks, water and low alcohol level beers processing are discussed.

### **ANS 414 Animal Breeding and Genetics**

This course presents and describe the principles and applications of quantitative and population genetics to the conservation, preservation, selection and mating systems or improvement of animal genetic resources with a particular interest on livestock animals. The topics discussed are

selection or breeding for high productivity, Disease resistance, environmental fitness and breed creation. The applications of biotechnology and related ethical issues will also be discussed.

### **CSS 402 Food and Cash Crop Production**

Management strategies and world production of the major tropical grains, protein and oilseed crops as well as cash crops (cotton, cocoa, coffee, palm oil, timber) are studied relative to their botanical and physiological characteristics and to available environmental resources. The utilization of the above mentioned food and cash crop for human food, livestock feed and various industrial products are examined. Delivery methods include lectures, analysis of articles on current issues and base group presentations.

### **IPM 402 Integrated Pest Management**

The deals with the identification and control of weeds, insects, and diseases as well as the integration of available control methods including prevention, biological control, resistant varieties, and pesticides. Pesticide terminology, formulations, calibration, environmental concerns, safe handling, and laws and regulations concerning pesticides to be discussed. Delivery methods include lectures, analysis of articles on current issues related to use/misuse and their impact on the environment and base group presentations.

### **ANS 416 Animal Health and Disease Control**

This course presents the principles of zoohygiene - a science concerned with the effect of the maintenance condition on the health and productivity of animals- as well as the description and control methods of livestock disease of veterinary, public health and economic importance. Life cycle of arthropods and ectoparasite of veterinary importance and their control measures, the aetiology, epidemiology, diagnosis, prevention and control methods of important livestock diseases shall be discussed. By the end of the course, the students should understand and implement the principles of zoohygiene, master and interpret visual and behavioral signs of some diseases affecting livestock as well as the clinical and postmortem principles of diagnosis of livestock diseases. They should understand the principles of prevention and treatment/control methods of livestock diseases. This course is a fundamental core for all students projecting any graduate or future career in the field of veterinary medicine, animal health or animal science or wildlife studies.

## **V.3. MASTER OF SCIENCE DEGREE**

### **V.3.1. COMMON COURSES**

#### **BIO 501: Biostatistics/Bioinformatics**

This course covers the basic tools for the collection, analysis, and presentation of data in all areas of public health. Central to these skills is assessing the impact of chance and variability on the interpretation of research findings and subsequent recommendations for public health practice and policy. Topics covered include: general principles of study design; hypothesis testing; review of methods for comparison of discrete and continuous data including ANOVA, t-test, correlation, and regression. Introduces bioinformatics concepts and practice. Topics include: biological databases, sequence alignment, gene and protein structure prediction, molecular phylogenetics, genomics and proteomics.

#### **BIO 503: Genetic Engineering and Molecular Biology**

The course is an introduction to molecular biology and genetics and methods used within these fields. The subject content is the following:

The structure of the genome: chromosomes, chromosomal structure, and extrachromosomal inheritance. The molecular basis of transmission of genetic information: nucleic acids and proteins. DNA replication, DNA repair, mutations, recombination, transposition, transcription, and translation. Examples of gene regulation. Inheritance of genetic information : meiosis, sexual reproduction and classical genetics and transfer of DNA between bacteria. Gene technology: restriction mapping, genetic libraries, cloning, gene expressions to overproduce proteins of interest, DNA/RNA-sequencing, PCR.

The possibilities, limitations and ethics of gene technology are discussed.

#### **MRP 502: Advanced Research Methods in Agricultural Sciences**

This course provides students with an opportunity to enhance their understanding of the principles and processes of agricultural research. The course will provide students with a foundation in critical thinking, experimental design and data analysis that will be applicable to independent research projects and graduate studies. Students will also explore the practical requirements and limitations of scientific research. Laboratory and field safety, animal care, intellectual property and research ethics will be reviewed. Students will be required to practice both oral presentation and writing skills as core components of their evaluation. The student will also be trained on how to write a Research Proposal and Thesis; and how to use statistical software for statistical analysis of data.

### **MRP 601: Advanced Research Grant Writing**

The ability to effectively communicate scientific ideas, project goals and experimental approaches is vital for graduate students (and all scientists). To assist in developing these skills, students will receive a series of formal lectures/discussions on how to prepare an effective grant proposal. Students will create a full format research proposal based on their own research project. The proposal will be critiqued by other students in the class as well as a panel of faculty members (at multiple stages in the writing process) to provide constructive feedback. The proposal will then be revised to generate a final version for grading. Teaching will utilize several approaches including discussion of examples of good and poor quality proposals and mock study sections with faculty present.

### **MRP 602: Seminar**

Seminar designed to promote effectiveness of professional written and oral communication, increase knowledge of research, and review content information in selected topics in Agriculture.

### **MRP 606: Thesis Defense**

The students present and defend their research Thesis in before a panel constituted by the Coordinator of the Master program of the University.

### **OAG 505: Agricultural Bioethics**

This course is designed to bring clarity to the debate surrounding some agricultural issues and explore their ethical dimensions. The course will enable identification of value conflicts and provide a framework for discussing them. Students should develop the ability to understand their own views as well as opposing views of ethical issues and be able to articulate and defend various views and the values they represent. Students who complete the course successfully should be able to define and interpret basic concepts in ethics and ethical decision making and be able to use these concepts in discussions of contemporary agricultural issues.

### **OAG 503: Organic Standards and Certification**

Organic is a labeling term that indicates that the food or other agricultural product has been produced through approved methods. This course describes the specific requirements that must be verified by a USDA-accredited certifying firm or institution before products can be labeled USDA organic. Overall, organic operations must demonstrate that they are protecting natural resources, conserving biodiversity, and using only approved substances. This will be discussed in this course. Organic certification system is a quality assurance initiative, intended to assure quality, prevent fraud and promote commerce, based on set of standards and ethics. It is a process certification for producers of organic food and other organic plant products.

## **OAG 501: Organic Food Production and Chain Management**

Legislation in the organic food production and processing. Nutritional value of organically produced food. Principles of organic production - selection of varieties / breeds, control of diseases and pests, growth conditions, storage conditions, processing methods, packaging. Organic production of bakery and other cereal based products, fruit juices and wine. Organic production of meat, milk and dairy products. Labelling and market implementations of organic products. Possibilities of improving organic food production.

## **V.3.2. ORGANIC LIVESTOCK HUSBANDRY AND BREEDING**

### **LHB 502: Quantitative Genetics**

Our ability to sustainably feed the world's growing population and solve some of humanity's most complex medical mysteries hinges upon our understanding of genetics and its ethical application to global problems. This course explores fundamental principles of genetics as they apply to food security, genetic improvement and agricultural research. You will learn how to effectively analyze practical datasets from existing agriculture and aquaculture breeding programs and undertake your proposed research into the nature of future research and development in this cutting-edge area of genetic and genomic sciences.

### **LHB 504: Reproduction and Caring of Young Animals**

This course will provide students with an understanding of reproductive biology in young animals. The physiological basis for reproduction in young animals, including livestock, companion and wildlife species will be studied. Topics covered will include comparative structure and function of male and female reproductive systems; endocrine, neuroendocrine and environmental control of reproduction; development of the gametes, embryo, foetus and placenta; and pregnancy and parturition. How the understanding of reproductive physiology informs the management of reproduction and fertility in young animals and provides the basis for reproductive technologies including artificial insemination and embryo transfer will be considered.

### **LHB 506: Livestock Selection and Breeding**

Intensive study in livestock production, management, marketing, nutrition, breeding, production records, selection, animal health, waste management, and conservation practices may be included.

### **LHB 501: Livestock Housing in Organic Farming**

Livestock housing in Organic farming establish environmentally friendly production, sustain animals in good health, realize high animal welfare standards, and produces products of high

quality to meet the demands of an increasing number of consumers who are critical of conventional production methods.

### **LHB 510: Animal Health Management in Organic Farming**

This course will provide students with an understanding of immunology, epidemiology and disease investigation of animals in Organic farming system. Content will include common diseases and health management of animals in organic farms caused by viral, bacterial, fungal and parasitic infections, and their control.

### **LHB 508: Pathophysiology**

This course provides an in-depth study of animal pathological processes and their effects on homeostasis. Emphasis is on interrelationships among organ systems in deviations from homeostasis. Upon completion, students should be able to demonstrate a detailed knowledge of pathophysiology. Course topics include the ethiology, physical signs and symptoms, prognosis, and complications of commonly occurring diseases and their management.

### **LHB 601: Animal Nutrition and Feeding**

This course will provide a general introduction to physiological processes associated with nutrition, chemical composition of feedstuffs, nutritive requirements of domestic/production animals, and an introduction to formulating and balancing rations for relevant livestock species. Learn the composition of a range of feeds, including pasture, fodder crops, grasses, cereals, seed, and other edible plants. This course also explains the role of proteins, vitamins and minerals in animal diets. It equips you with the skills required to evaluate feeding and select appropriate feeds - for digestibility and nutritional content - applicable to real life farming situations.

### **LHB 603: Grazing and grassland Management**

In this course, the students will learn the key concepts of successful grazing operations that can be adapted and successfully implemented on your own farm. The course focus will be on grazing ruminant livestock, but part of the information will be relevant to non-ruminant animals as well. The course will continue with an introduction to grasslands detailing their distribution and classification, including some practical work on grass identification. Subsequent sessions will provide invaluable knowledge for students interested in the management of grassland for livestock production, wildlife and environmental protection. Sessions will explore issues surrounding the establishment and diversification of existing grassland, coupled with grazing management and methods of promoting wildlife. The nutrition and feed value of grasses and legumes will be discussed and approaches to weed control examined. Amenity grassland and its management will also be studied.

## **LHB 605: Organic Livestock Production**

This course provides information on organic livestock production in general, as well as more detailed analyses of organic beef and sheep, dairy, and swine and poultry production. The course is intended for students new to organic livestock production, and for more experienced producers. This is a web-based course that incorporates a variety of instructional materials and methods. Throughout the course the student will explore available organic resources and complete a variety of self-directed learning exercises.

## **V.3.3. NUTRITION AND FOOD QUALITY**

### **NFQ 502: Advanced Food Microbiology and Toxicology**

This course covers the characteristic of microbial growth, intrinsic and extrinsic factors and their relationship to microbial growth; the principles of food fermentation and the role of beneficial microbes; the role of microorganisms and food spoilage; pathogenic microorganisms, infection and intoxication, mycotoxin, viruses and parasites; the principles to control microbial growth; as well as qualitative and quantitative microbiological analysis. This course will also provide a general review of toxicology related to food and the human food chain. Fundamental concepts will be covered including dose- response relationships, absorption of toxicants, distribution and storage of toxicants, biotransformation and elimination of toxicants, target organ toxicity, teratogenesis, mutagenesis, carcinogenesis, food allergy, and risk assessment. The course will examine chemicals of food interest, such as food additives, natural products, mycotoxins, and pesticides, and how they are tested and regulated. We will critically review case studies and special topics.

### **NFQ 504: Food Processing**

Food processing is the set of methods and techniques used to transform raw ingredients into food for consumption by humans. In order to meet the sensory quality, safety, nutrition, health, economy and novelty demanded of food products by consumers, it is necessary to improve food processing operations. Food processing has moved on from being a craft to a modern technology. This course covers principles of operation and design of industrial equipment, used in the processing, storage and packaging of foods. Food quality and food safety aspects, related to food processing equipment, are emphasized. Food processing equipment is classified and described according to the basic unit operations, including mechanical transport, mechanical processing and separations, heat transfer operations, evaporation, dehydration, thermal processing, etc.

### **NFQ 510: Functional Foods and Nutraceuticals**

Identification and characterisation of bioactive components in food. Emerging superfood and native (including Aboriginal) foods on health benefits; effectiveness of bioactive on biomarkers or physiological functions and the mode of actions; diet rich with food bioactive components on



disease preventions; bioactive and formulations on enhanced sports performance. Comparative studies on the effectiveness of functional foods, nutraceuticals and pharmaceuticals on disease. Prophylactic versus reactive treatment of disease with functional foods, nutraceuticals and drugs. Delivery of functional ingredients in foods – issues of formulation, product development, encapsulation or slow release of protected components; interactions between food and medicines; toxicological aspects of nutraceuticals or functional foods. Definition of regulatory requirements that relate to therapeutic claims for functional foods and nutraceuticals.

### **NFQ 601: Food Formulation and Sensory Analysis**

The subject includes experimental and theoretical studies based on an engineering and scientific approach aimed to address issues of relevance for the food industry, pharmaceutical industry and other related industries, as well as a systems perspective of food production and consumption in society. Studies of the subject may include: characterization of raw materials characteristics, principles for the development of formulations, the design and consequences of consumption of products with active health-promoting properties. Sensory analysis concentrates on the use of human senses and instruments for the measurement of sensory characteristics of foodstuffs and their effect on final food acceptance. Descriptive analysis; recruitment and qualification of judges; training; experimental design; variability of food products and beverages; sampling procedures; physiological and psychological errors; statistical data analysis. Sensory evaluation of specific food products: wine, virgin olive oil, beer, coffee, tea, dairy products, meat products.

### **NFQ 506: Food Analysis Methods**

The purpose of this course is to expose students to the principles, methods, and techniques of qualitative and quantitative physical, chemical and biochemical analyses of foods. Throughout the course, major emphasis will be placed on understanding the basic principles of classical and instrumental methods of analysis, with lesser emphasis on details of specific methods. Criteria for the choice of various analytical methods will be presented. Methods of treating data and sampling techniques will be studied. Lecture topics will focus on common methods of proximate analysis and related techniques used in analysis of food and food ingredients.

### **NFQ 508: Nutrition Education**

This course aims at introducing students to the theories and skills necessary to design and implement nutrition education programs. It shows how nutrition education can facilitate dietary changes in a group of people. It introduces students to nutrition education basics, definition, history, aims field and challenges. The course introduces students to the science of nutrition, its application in health education process. The students will learn about nutrition education definition, rationale, impact, role of health educator and nutrition services, and nutritional population problems. Also, the need of Nutrition Education programs will be explored. Specific educational needs of patients' population with specific health conditions will be emphasized. Also

it discusses nutrition education methods, approaches in nutrition counseling and nutrition education challenges.

### **NFQ 603: Therapeutic Nutrition**

This is an advanced course focusing on the use of nutrition therapy in the management of health and disease. Specific nutrition intervention including diet, vitamins, minerals, botanicals, essential fatty acids and amino acids are explored for a wide variety of diseases commonly encountered in clinical practice. The biochemistry of each intervention is discussed for a full understanding of how to integrate nutrition therapy into patient care.

### **NFQ 507: Advanced Nutrient Metabolism**

To provide an in-depth understanding of the fundamental aspects of human nutrition including the scientific bases for setting nutrient recommendations. Through this module, students will gain a sound understanding of the relationship between nutrient intake and the maintenance of health in humans and an insight into research methods used in human nutrition research.

### **NFQ 609: Design and analysis of experiments**

This course present how to use the methods of statistical design of experiments (DOE) to design efficient experiments, analyze the results correctly and present them in a clear fashion. Statistical DOE is used widely in both industry and academia. Graduate and undergraduate students from any field of science or engineering can use the methods learned in the course in their projects and research. The course includes use of the statistical software JMP, planning and running real experiments as projects and classroom active learning exercises based on real case studies.

## **V.3.4. ORGANIC CROP PRODUCTION**

### **OCP 501: Soil Microbiology and Fertility in Organic Farming**

This course deals with Soil nutrient supply to plants and organisms as well as the interactions between soil organisms and the soil environment. It equally deals with the availability and uptake of macro and micro nutrients in the plant - microbial– soil system, nutrient deficiencies and toxicities, as well as soil properties and soil environmental conditions that influence soil fertility and its suitability to act as a growth medium. Types and functions of microorganisms in soil as well as types of organic fertilizers and calculation on their application rates will also be discussed. The roles of Microbes in biogeochemical cycling, soil gaseous exchange, nutrient status, and food web interactions will also be of interest.

Practical work includes the laboratory evaluation of soil fertility and greenhouse pot trials to Investigate nutrient uptake as well as deficiencies and toxicities symptoms in plants.

### **OCP 503: Organic Crop Production Systems**

Organic farming is an integrated system of agricultural production based on ecological principles, promotion of biodiversity, biological cycles and organic matter recycling to maintain and improve soil fertility and environmental sustainability. The regulations for organic crop cultivation prohibit the use of chemo-synthetic pesticides, mineral fertilizers, growth promoters and Genetically Modified Organism.

This course will therefore focus on Organic Production Systems that meet up the organic principles. Different approaches on the use of plants, animals and soils in organic farming will be presented as well as different farming systems such as Conventional Farming, Organic Farming, Biodynamic Farming, Nature Inclusive Agriculture, Agroforestry and Permaculture.

### **OCP 502: Sustainable Management of Pest and Diseases**

The course will deal with the identification and classification of major field pest and diseases, disease cycle, different techniques commonly used in plant pest and disease diagnosis, methods of pest and disease control and economic importance of crop pest and diseases. Knowledge on pesticides, pesticide preparation, principles of pesticide application, different types of pesticides and their mode of action, pesticide resistance, integrated management of pests and diseases, effect of pesticides on ecosystem and environment shall be acquired. Environmental conditions affecting the development of pests and diseases shall also be of importance.

Practical experience for students will focus on;

- Identification of pests and diseases and symptoms on students' plots and farmers' fields in the community,

Utilization of natural methods in controlling the identified pests and diseases such as the preparation and application of biopesticides and biofertilizers for sustainable pest and diseases management.

### **OCP 605: Soil Analysis and preservation**

The course provide the student with the knowledge and integrated skills to produce a industry-standard, farm-scale, land and water management plan. This plan will correctly identify existing and potential soil and nutrient loss pathways, the causes of these losses, and provide justification for a range of mitigation options.

### **OCP 504: Organic and Low Input Systems**

There is considerable world-wide interest in organic and other low input production systems because of the perceived benefits they provide in terms of food quality, food safety and reduced environmental impact when compared with 'conventional' production systems. Crop production within low input systems provides a 'challenge' to farmers and crop scientists alike in determining how to use their knowledge of the interactions between the soil and plants, and plant pests and pathogens, to grow crops with sufficient yield and quality. The aim of this course is to

provide an understanding of the production techniques employed within such systems. The course will focus on arable and horticultural crops but consideration will be given to livestock production within the context of a mixed farming system.

### **OCP 506: Plant Production and Global Climate Change**

This course provides a basis for an in-depth understanding of the impacts of global climate change on plant growth and development with a specific focus on how climate change is likely to affect plant production. Crops and agricultural systems of particular importance to Cameroon agricultural and horticultural production will be closely examined. The course will highlight the importance of understanding the mechanisms by which elevated CO<sub>2</sub>, increased temperature and changing rainfall patterns will affect plant performance and production. An integrative approach will be taken to understand how climate change affects plant biochemical processes and phenology so that students can themselves predict the consequences of climate change for any particular crop species. Changing phenology, plant species range shifts, changing pest pressure and variation in yield will also be explored in the context of climate change. Specifically the responses of photosynthesis and respiration to elevated CO<sub>2</sub> and rising temperatures will be examined in the context of modelling the responses of plant systems to global climate change.

### **OCP 510: Advanced Plant Breeding**

Principles and methodologies targeting genetic gain for crop improvement. Concepts of qualitative and quantitative trait improvement. Parental germplasm, hybridization, population formation, inbreeding, genetic variance, heritability, selection methods, molecular genetic markers, genetically engineered crops.

### **OCP 603: Advances in Crop Protection**

An essential element of this course will be a critical appreciation of current problems and the strategies being deployed by researchers and practitioners to reduce disease incidence in different cropping systems. Understanding the biology of organisms that cause disease, developing novel methods to detect and discriminate pathogens and modeling their spread will give a systematic and critical appreciation of disease processes. Critical awareness of modern genetic and genomic technologies and their applications to pathology will enable students to evaluate contemporary advances in the field. The course will illustrate how pathogen control methods are evolving from both traditional and emerging technologies in a continuous and dynamic process and it will build a knowledge-led view of how crop protection will develop in the 21<sup>st</sup> century.

### **OCP 601: Crop variety Characteristics and Testing**

This course deals with crop varieties, their characteristics that enable them to portray their productivity potentials. Some major crop varieties from groups of crops, their characteristics as well as some most important biological molecules shall also be discussed.

Diversified characteristics such as seed size, branching pattern, *height*, flower color, fruiting time, and *flavor* as well as Crops variety response to *heat*, cold, drought and resistance to specific pests and diseases shall also be studied. It will also be important to look at some important factors responsible for deterioration of varieties, causes and management.

### V.3.5. SUSTAINABLE AGRICULTURE AND DEVELOPMENT

**SAG 510: Rural Agricultural Extension: Issues and Concepts:** Students will gain knowledge on the importance and role of extension in rural development and the different approaches to extension. Students will also be able to understand the role of the “New Extensionist”.

**SAG 508: Farm Management for Sustainable Agriculture:** Students will be able to implement financial and risk management systems and analyse and interpret management information systems. Skills in terms of the manager, the management process and personnel management will be acquired.

**SAG 502: Sustainable Utilization of Natural Agricultural Resources and the Environment:** Students will gain knowledge and insight into the sustainable utilization of natural resources, climate, soil, pastures and energy to the efficient use for people without damaging the resources.

**SAG 506: Agricultural Product Processing and Marketing:** After completion students will understand the physical methods of food processing and to be able to apply the principles of processing dairy and meat products, vegetables, fruit, as well as cereals, legumes and grains in the practice.

**SAG 601: National and International Agricultural Marketing:** Students will understand the marketing environment wherein agriculture operates, as well as the national and international contexts. The student will acquire skills that relates to the analysis of markets and trades, as well as the composition of marketing strategies.

**SAG 603: Strategic Management and Planning in Agriculture:** After completing this course, students will be able to apply the principles and processes of strategic management, marketing and planning to develop such a plan for an agricultural enterprise.

**SAG 609: Agriculture Technology for Developing Countries:** Students will be able, among other things, to design and develop different irrigation-practices, to evaluate technology in developing regions and to suggest suitable adjustments.

**SAG 501: Sustainable Plant Production Systems:** This course will enable students to implement sustainable plant succession practices through strategic crop and cultivar choices, soil tillage, plant nutrition and water management and utilization. This module covers both agronomical & horticultural plant production systems.

**SAG 503: Sustainable Livestock Production Systems:** This course will enable the student to apply the three dimensions of livestock production namely nutrition, reproduction physiology and animal breeding within an intensive and extensive production system.

**SAG 504: Communication and Technology transfer for Sustainable Agriculture:** After completing this course, students will have confidence in the principles of communication and technology transfer, the context of communication and communication strategies in respect of technology transfer.



*Mushroom production by students*





## **SECTION VI**

# **TEMPLATES: WRITING OF A RESEARCH PROPOSAL/REPORTS/THESIS**



## **VI.1. WRITING OF A FINAL YEAR AND MASTER RESEARCH PROPOSALS**

A research proposal is an account of what the researcher intends to do and how he intends to do it. It is usually written in the **future tense**, while the research report or Theses are written in the past tense.

### **1- Importance of research proposal**

- ❖ A research proposal allows the researcher to have a proper perspective in executing a particular study,
- ❖ The researcher can visualize the measure difficulties, the workability of some techniques, the cost and other involvements in the study.
- ❖ Some funding agencies require research proposal as base for providing supports. Hence, the research proposal can help a researcher to get funding.
- ❖ The research proposal forms the basis for seeking advices or approval for the proposed studies for the supervisor, department...

### **2- Components of a research proposal**

The research proposal is made up of:

- ❖ A title
- ❖ Introduction, which is subdivided as follow:
  - Background knowledge to the study
  - The purpose or aim, or objectives (general objectives and specific objectives)
  - Justification of the study
- ❖ Literature review
- ❖ Material and methods
- ❖ Expected results
- ❖ References
- ❖ Time schedule of your research project
- ❖ Estimation of the budget

#### **2.1- Title**

Every research project must have a title and it should not be too long, it should be meaningful and specific.

#### **2.2. Introduction**

The introduction should highlight the following:



### ❖ **Background information**

This may start with definitions, trying to inform the reader of the meaning of the subject matter under study. For example, what the plant is, its specific classification, some uses etc.

### ❖ **Objectives**

The objectives are stated first in general term, and then are specific measurable objectives.

*General objectives* discuss what the researcher intends to do in the course of the research. For example, nutritional value of a fruit juice, antioxidant or antimicrobial activity of a plant or product etc.

*Specific objectives* explain how the general objective will be attended by practically examining the parameters in the laboratory. For example, proximate analysis of foods, phytochemical screening of plants.

### ❖ **Justification or importance of the study**

The importance of the study is given based on the existing problem. Justification for carrying out the study could be the lack of information, hence the researcher should bring out the existing problems and how the research results could be used to solve these problems.

## **2.3. Literature review**

The first step in the planning of the research proposal is to carry out an intensive literature review. This is essential for many reasons:

- ❖ The researcher will acquaint himself or herself with the level of knowledge in the specific area of the project.
- ❖ Literature review will enable the researcher to narrow down the specific data to be provided by the project.
- ❖ Literature review will assist the researcher to know the type of technology which other people have used in their own study.
- ❖ Literature review also helps the researcher to know the type of methodology to apply or modify the existing methodology if still found effective in the research concerned. Literature review is always discussed in the **past tense**. It gives a brief description of some published studies related to the study under consideration. Literature review embodies a comprehensive and up to date review of relevant literature based on the research topic.

## **2.4. Material and methods**

This section should be written in the **future tense**. A project will be useless and incomplete if the required technology, man power and material are not taken into consideration before designing the project.

The material and methods content a detailed description of the experimental procedures or methods to be used in the research work. The material include: Plants, reagents, living organisms, a treatment etc, required for the research. The experimental procedures or methods to be used in the research should be given. Standards unmodified methods should be cited while modified methods should be completely described so that another researcher can repeat the experiments following the procedures.

## **2.5. Expected outputs of the project**

Here the researcher should inform people on the deliverables of his/her research, what will be achieved at the end of the project.

## **2.6. Time schedule for your research project**

Chronologically plan of activities: Each significant project activity should be listed here, and the author should indicate when it will take place and how long it will be last.

## **2.7. Estimated budget**

Here, the researcher has to list cost estimate for his/her project and explain the necessity of all the major items relevant to the research plan.

## **2.5. References**

### **Citation within the text**

References must be cited in the text mentioning the last name of the author and the year of publication in bracket. In the case of 2 authors, both names should be mentioned. Example: Teyomnou and Edem (2015)

When there are 3 or more authors, mention only the first author follow by “*et al*” (in italic) and then by the year. Example: Teyomnou *et al.* (2014)

When two or more references are cited in the same bracket, the authors should be in chronological order. Example: (Hocman, 1981 ; Botterweck *et al.*, 2000 ; Prior, 2004).

### **Reference list**

All references should be arranged **alphabetically** by authors’ name, listing all authors, the full title of articles and journals, publisher and year. Journal names can be abbreviated or not. The references in text and in the list of the research proposal or report or thesis should be cross-checked to ensure similarity.

**Examples:*****Journal***

Collins, S. J., Bester, B. H. and McGill, A. E. J. 1993. Influence of psychrotrophic bacterial growth in raw milk on the sensory acceptance of UHT skim milk. *Journal of Food Protection* 56(5): 418-425.

**Monograph/Book**

Connel, J. J. 1990. Control of fish quality. 2nd ed. London: Fishing News Books.

**Chapter in Book**

Hart, R. J. 1998. Food Science and the transport of food. In Heap, R., Kierstan, M. and Ford, G. (Eds). *Food Transportation*, p. 1-21. London: Thomson Science.

**Proceedings/Seminars/Conferences**

Jinap, S. and Yusof, S. 1994. Development of juice from cocoa pulp. In Jinap, S., Bong, C. L., Tan, K. L. and Wan Rahimah, W. I. (Eds). *Proceeding of the Malaysian International Conference*, p. 351. Kuala Lumpur: Malaysian Cocoa Board.

**Internet**

United States Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS). July 2006. Food Safety Information: Microwave Ovens and Food Safety. Retrieved on August 24, 2014 from FSIS Website:

[www.fsis.usda.gov/shared/PDF/Microwave\\_Ovens\\_and\\_Food\\_Safety.pdf](http://www.fsis.usda.gov/shared/PDF/Microwave_Ovens_and_Food_Safety.pdf)

**Report**

Lontoc, A. V. 1981. Existing food analytical methods and problems in the Philippines. Report of the ASEAN Workshop on Analytical Techniques. Singapore: ASEAN Subcommittee on Protein.

**Thesis**

Yusep, I. 1997. The effect of fermentation and soaking times on pyrazines and acidity and concentration of Thai Forastero cocoa beans. Bangkok, Thailand: Kasertsart University, MSc thesis.

**Patent**

Bell, A. G. 1876. U.S Patent No. 174, 465. Washington, DC: U.S. Patent and Trademark Office

**Standards**

Standards Australia. 1994. The storage and handling of corrosive substances (AS 3780—1994). Retrieved from <http://www.saiglobal.com>

## VI.2. WRITING OF A FINAL YEAR RESEARCH PROJECT OR MASTER THESIS

**COVER PAGE (Annexe 1)**

**CERTIFICATION (Annexe 2)**

**DEDICATION**

**ACKNOWLEDGEMENT (No more than 1 page)**

**TABLE OF CONTENTS**

- ❖ Abstract
- ❖ Introduction
- ❖ Literature review
- ❖ Material and methods
- ❖ Results and discussion
- ❖ Conclusions
- ❖ Recommendations
- ❖ Perspectives
- ❖ References



*Breeding for more resistant species*

### INTRODUCTION

The introduction should highlight the following:

#### ❖ Background information

This may start with definitions, trying to inform the reader of the meaning of the subject matter under study. For example, what the plant is, its specific classification, some uses etc.

#### ❖ Problem statement

A research problem, in general, refers to some difficulty which a researcher experiences in the context of either a theoretical or practical situation and wants to obtain a solution for the same.

#### ❖ Objectives

The objectives are stated first in general terms, and then are specific measurable objectives.

**General objectives** discuss what the researcher intends to do in the course of the research. For example, nutritional value of a fruit juice, antioxidant or antimicrobial activity of a plant or product etc.

**Specific objectives** explain how the general objective will be attended by practically examining the parameters in the laboratory. For example, proximate analysis of foods, phytochemical screening of plants.

### ❖ **Justification or importance of the study**

The importance of the study is given based on the existing problem. Justification for carrying out the study could be the lack of informations, hence the researcher should bring out the existing problems and how the research results could be used to solve these problems.

## **CHAPTER I: LITERATURE REVIEW**

Here the student to clearly give the state of art of his/her works (theoretical).

## **CHAPTER II: MATERIAL AND METHODS**

This section should be written in the **past tense**. Here the student must list the material used (Plants, reagents, living organisms) in the laboratory and clearly describe the experiments done, and how the data were analyzed.

### **Example:**

#### **II.1. Material**

The freshly fermented cocoa beans (*Theobroma cacao*) were collected from a farmer in Mbanga, Cameroon, in July 2017. All the chemicals and reagents used were of analytical reagent grade.

#### **II.2. Methods**

##### **II.2.1. Sample preparation and processing**

Freshly fermented cocoa beans were divided into two different groups (G1 and G2). The first group (G1) was dried in an electric air-dried oven at 45 °C for a period of 48 h. The dried beans were then divided into 05 sub-groups of 200 g each (SG0, SG1, SG2, SG3 and SG4). SG1 and SG2 samples were traditionally roasted in cooking pot by continuous stirring for 5 and 10 minutes respectively, and were affected the codes DTRCB 5min and DTRCB 10 min respectively. The temperature between the heat source and cooking pot was ranged between 200-220 °C. SG3 and SG4 were also roasted, but in the oven at 180 °C for a period of 5 and 10 minutes respectively, and were affected the codes DORCB 5 min and DORCB 10 min respectively. SG0 served as dried control and was coded DCB. G2 was extracted fresh and served as unprocessed control and was coded FCB.

##### **II.2.2. Statistical analysis**

Here the researcher should present the way and software he/she used to compare the means and standard deviation obtained for specific parameters. The software name and version should be given.

### CHAPTER III: RESULTS AND DISCUSSION

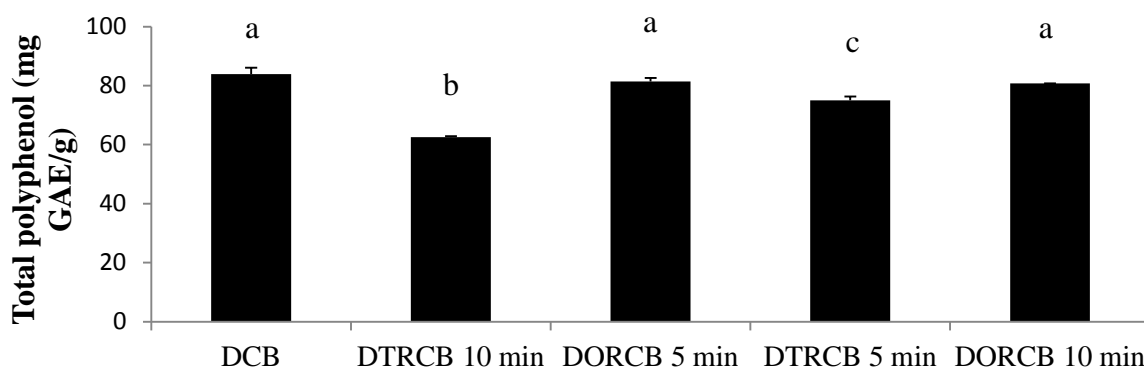
Here the student should present the results, analyze interpret and scientifically discuss. This should be written in the past tense.

#### *Example:*

#### **Effect of processing on the total phenolic content of cocoa beans**

The changes in total polyphenol of processed cocoa beans samples compared to the control (DCB) are presented in **Figure 1**. A significant decrease ( $p < 0.05$ ) in polyphenol content was registered in DTRCB 5 min and DTRCB 10 min, meaning that the traditional roasting has significantly affected the polyphenol of this sample. We can also notice that, the rate of reduction of the total polyphenol was increasing with roasting time. However, no significant difference was observed between the samples roasted in the oven (DORCB 5 min and DORCB 10 min) compared to the control (DCB).

From these observations, it appears that, oven roasting ( $140\text{ }^{\circ}\text{C}$ ) preserve better the total polyphenol of cocoa beans compared to the traditional roasting. The significant decrease ( $p < 0.05$ ) in total polyphenol registered in DTRCB 5 min and DTRCB 10 min compared to DORCB 5 min and DORCB 10 min might be attributed to the high processing temperature, because the traditional roasting temperature was higher than the oven roasting temperature. It has been proven that at high temperature, low molecular weight phenolic compounds easily volatilize. These results are in agreement with those of Endraiyan (2011) who demonstrated that the total polyphenol of cocoa pulps significantly decrease with the number of pasteurization. They are also in accordance with those of Rizki et al. (2015) who showed that, the total phenolic content of sesams seeds significantly decrease with roasting time.



*(a-c) Values with different superscript differ significantly at  $p < 0.05$*

**Figure 1:** Changes in total phenolic content of cocoa beans during processing.

[DCB = Oven dried cocoa beans; DTRCB 5 min = Dried and traditionally roasted cocoa beans (5 min); DORCB 5 min = Dried and oven roasted cocoa beans (5 min); DTRCB 10 min = Dried and traditionally roasted cocoa beans (10 min); DORCB 10 min = Dried and oven roasted cocoa beans (10 min)]

## CONCLUSIONS

The student should give the major and minor conclusions that can be drawn from the research, based on the specific objectives of the study.

## RECOMMENDATIONS

From the conclusions, the student can recommend or not the use of his crucial results, depending on the topic.

### *Example:*

#### *Recommendations*

*Drying and oven roasting for 5 and 10 min; and drying and traditional roasting for 5 min can be recommended in cocoa beans processing for the formulation of chocolate because they preserve better their nutritional quality and phenolic antioxidant.*

## PERSPECTIVES

From the challenges faced by the student during his research, he can decide in the future to study other aspects of the same research work for a better understanding.

### *Example:*

#### *Perspectives*

*To evaluate the effect of the following processing methods: drying and oven roasting for 5 and 10 min; and drying and traditional roasting for 5 min on the nutritional value, phenolic content and antioxidant activity of chocolate.*

## REFERENCES

Refer to the guide of the research proposal section.



*Land preparation for pineapple production*



*Planting of pineapple*

## **VI.3. FORMAT OF INTERNSHIP REPORT**

### **Title Page**

The title page of the report will include:

- a. Name of the organization
- b. Name of the internee, Student ID and session
- c. Submission date of the internship report
- d. Name of the University
- e. Organization and University logos

### **2. Letter of Undertaking**

You are required to fill in the Letter of Undertaking and attach here the scanned copy after signing it.

### **3. Scanned copy of the internship certificate (provided by the organization)**

Attach the scanned copy of your (original) Internship Completion certificate provided by the organization.

### **4. Dedication (Optional)**

If you want to dedicate your work to someone, you may write the dedication note under this section of your internship report.

### **5. Acknowledgment**

In this section you acknowledge the help and support of all the people who helped you in completion of your internship and internship report e.g. the library staff, course instructor, family or any other person.

### **6. Executive Summary**

Executive summary previews every section of the report in a short form. It can be called as micro image of the report. It helps the reader to get a quick glance at the report before reading it in detail. Everything important that you have done, discovered and concluded should be mentioned but briefly and concisely.



## **7. Table of contents**

List the important headings and sub headings in the report with page numbers. Also make a separate list of tables and figures in the table of contents if you have used any.

## **8. Overview of the Organization (word limit: min. 500 words)**

- a. Brief history
- b. Introduction of the organization
- c. Policy of the organization
- d. Competitors

## **9. Organizational Structure (word limit: min. 500 words)**

- a. Organizational Hierarchy chart
- b. Number of employees
- c. Main offices
- d. Introduction of all the departments
- e. Comments on the organizational structure

### **Note:**

In section #8-9, students are expected to collect information from various sources such as interaction with the organization's personnel (managers, internship supervisor, colleagues etc.) and company website, documents, brochures etc. but it is necessary to mention the sources of information in report.

## **10. Plan of your internship program (word limit: min. 300 words)**

- a. A brief introduction of the branch/ area office of the organization where you did your internship
- b. Starting and ending dates of your internship
- c. Names of the departments in which you got training and the duration of your training

## **11. Training Program (word limit: min. 2000 words)**

- a. Detailed description of the operations/activities performed by the department(s) you worked in.
- b. Detailed description of the task(s) assigned to you **OR** detailed description of the project assigned.

## 12. Reflective Journal Entries (word limit: min. 2550 words)

- a. In reflective journal writing, student will reflect on all activities during **each day** of internship in that organization and then will enter in reflective journal on daily basis.
- b. Entry for a single day should be very comprehensive and should include all important happenings of that particular day. A comprehensive journal not only includes information on assignments and tasks you are given, but also your impression of the organization and the staff at your internship.
- c. In case of any leave or holiday students will also mention it in reflective journal along with reason for observing that leave.

### Tips for writing Reflective journal

The following is a helpful formula for reflective journal writing.

#### Formula D-I-E-P

**D – Describe** *objectively* what happened

- Answer the question, “**What did you, see, read, hear etc?**”

**I – Interpret** the events

- Explain what you saw and heard;
- Your new insights;
- Your connections with other learning, your feelings etc;
- Your hypotheses; your conclusions;
- Answer the question what might this mean?

**E – Evaluate** the **effectiveness** and **efficiency** of what was observed

- Make judgments clearly connected to observations made.

Evaluation answers the question, “**What is your opinion about what you observed or experienced? Why?**”

**P – Plan** how this information will be useful to you

- **What are your recommendations?** (Be concrete)

**Consider:** In what ways this learning experience will serve you in your future?

### Remember your Journal Entries, attempt to:

- a. *Analyze your own performance as a learner*
- b. *Evaluate your gains in understanding and completing tasks*
- c. *Verbalize how you feel about your learning*
- d. *Make connections with other experiences, ideas*
- e. *Demonstrate transfer of learning*
- f. *Integrate the concepts taught in courses*

### **13. Work Samples (word limit for this section is not specified as it depends on the nature of work sample)**

Compile at least 2 samples of your work during your internship. Some examples of work samples include: news stories, articles, interviews, spreadsheets, log sheets, correspondence, videos, CDs with audio or visual clips, photos, layouts, press releases, media lists, speeches etc. Each work sample should have a short description of your role in that work sample or how you used the sample.

### **14. Critical Analysis (word limit: min. 1500 words)**

Relate the theoretical concepts with your practical experience during your internship in the organization. Execute an overall analysis of the organization.

### **15. SWOT Analysis (word limit: min. 1000 words)**

Clearly describe all the strengths, weaknesses, opportunities and threats of the organization where you have done internship. Remember that strengths and weaknesses are internal to the organization and represent its culture while opportunities and threats correspond to the environment outside the organization.

Strengths are those qualities which distinguish or give an edge to the organization over other organizations.

Weaknesses are the attributes of an organization that are harmful in achieving the objectives of an organization.

Opportunities are the external factors that are helpful in achieving the objectives of the organization.

Threats are the external factors which could damage the business performance of the organization.

### **16. Conclusion (word limit: min. 350 words)**

In this section you are required to describe the organization according to your evaluation/assessment in the light of critical and SWOT analyses.

### **17. Recommendation (word limit: min. 300 words)**

In this section you are required to suggest solutions for all the problems or discrepancies (you have pointed out in critical/ SWOT analysis) found in the organization.

#### **Note:**

Section # 10-17 are NOT expected to be copied from anywhere, the student must provide information in these sections based on his/her personal observation, learning and experience gained during the internship. Cheating or copying in these sections is NOT acceptable and hence the entire internship report can be completely rejected as per **ZERO TOLERANCE POLICY** of

the university. The university may also take a legal action according to plagiarism policy as defined by HEC (Higher Education Commission).

## 18. References & Sources

In this section, provide all the references and sources that you have used f in your Internship Report.

## 19. Annexes

At the end of your report, attach all of the supportive material you have used for the preparation of your report, like brochures, forms, newsletters, interviews, questionnaires, news reports, articles, features, columns etc.

### IMPORTANT!!!!!!!!!!

- i. Complete all the required parts as mentioned in the format of Internship Report. Remember, each part is essential, therefore, DO NOT skip any part as every part is included in evaluation criteria.
- ii. Words required for internship report (excluding work samples) are 9,000 – 11,000.
- iii. There is no specific range of words required for work samples as it will vary from task to task. However, these words will be in addition to the specified word limit of 9,000 to 11,000 words of internship report.
- iv. There should be harmony among the ideas that you describe in the Critical analysis, SWOT analysis, Conclusions and Recommendations.
- v. Internship Report should be submitted within the due date as mentioned in the ‘Semester Calendar’. Submissions made after due date shall not be considered.
- vi. Students are required to submit their Internship Reports in hard form to the office of the Dean. Internship Reports submitted via e-mail or through social media will not be accepted.



*Food analysis in SANR  
Laboratory*



## SECTION VII

### CUIB facilitating services



### **VII.1. Library**

The CUIB library has a rich collection of academic materials (textbooks, journals, manuscripts, etc.) which can be accessed by students, faculty and staff. The library can also be accessed by the wider public. It is opened Monday to Friday from 9:00 am - 5:00 pm. For more information, contact the Office of the Librarian (CUIB) at: [library@cuib-cameroon.net](mailto:library@cuib-cameroon.net)

### **VII.2. Office of Examination and Records (OER)**

This office of Examination and Records is one of the most important offices in CUIB given its strategic role. This office is charged with the following task:

- a) Organize all CUIB examinations in collaboration with the Provost;
- b) Produce student academic transcripts in collaboration with the mentor university – The University of Buea (UB);
- c) Collaborate with all the units of the University to obtain information required to generate all types of student records.
- d) Serve as the achieve department of the CUIB.

For more information, contact The Office of Examination and Records through email: [exams.records@cuib-cameroon.net](mailto:exams.records@cuib-cameroon.net)

### **VII.3. Campus Ministry**

**The Pastoral Arm of CUIB takes care of the following services:**

- a) **Liturgy**  
Aspects of spiritual wellbeing of all members of CUIB community including daily masses, sacraments, retreats, and the students choir (Scolaris Cantores).
- b) **EoC services**  
Concerned with social meetings, academic debates, motivational and carrier talks, interdependent study groups and entrepreneurial projects etc.
- c) **Counseling**  
Helping students out of their emotional, psychological, spiritual problems, etc.
- d) **Recreation and socio-cultural activities**

Facilitate and plan recreational activities as well as supervise the creation and functioning of student clubs.

### **VII.4. Health Centre**

The health centre is in charge of health related issues in the University and improves on the health condition of staff, faculty and students.

For more information, contacts the Health Centre at (+237) 672 06 38 36 /676 38 72 84 or through email: [healthunit@cuib-cameroon.net](mailto:healthunit@cuib-cameroon.net).

### **VII.5. STUGA**

The CUIB Student Government Association (STUGA) exists to bridge the gap between students and Faculty and the University Administration. STUGA cooperates with the office of pastoral services in the organization of all student activities; acts as a link between students and for more information on STUGA activities, contact their office on Campus. For more information, contact them through [stuga@cuib-cameroon.net](mailto:stuga@cuib-cameroon.net).

### **VII.6. St. Martha Faculty, Staff and Students restaurant**

St Martha Faculty, Staff and Students main aim is serving the university community as well as the wider public with high quality food on a timely basis and at affordable prices. The restaurant sells varied snacks, drinks, and a multitude of dishes from Cameroonian, African and European dishes. It is a perfect restaurant to experience Economy of Communion (EoC), whether you like food, or story-telling or just sitting and thinking best, or a pleasant mixture of them all. The restaurant serves a dish (irrespective of choice) to students at 400 FRS and to others at 500 FRS. The restaurant opens daily from Monday to Friday from 09:00 – 16:00 with a short closure from 11:45 – 12:30 during EoC hour. For more information, contact them at [fssc@cuib-cameroon.net](mailto:fssc@cuib-cameroon.net) or (+237) 671 86 86 86.

### **VII.7. Office of Utility and Custodial Services**

Provides adequate services and ensures a smooth functioning of utility and logistics activities. It is also in charge of hygiene, sanitation and decoration services on campus. For more information, contact them at [oucs@cuib-cameroon.net](mailto:oucs@cuib-cameroon.net).

### **VII.8. CUIB Communication Service**

Responsible for developing and implementing editorial and design guidelines for the University, communicating University news to target audience, keep information and documents that are password-protected. For more information, contact them at [communication@cuib-cameroon.net](mailto:communication@cuib-cameroon.net) / [tv@cuib-cameroon.net](mailto:tv@cuib-cameroon.net).

### **VII.9. Sport Academy**

Seeks to develop athletes who strive to be servant leaders and bring together educational opportunities, vocational placements and quality sports services.

### **VII.10. Security Division**

It protects the University's facilities, properties, personnel, users, visitors and operations from harm and may enforce certain laws and administrative regulations. For more information, contact them at [securityunit@cuib-cameroon.net](mailto:securityunit@cuib-cameroon.net)



### VII.11. CUIB Center for Student Services

Student Services provide a range of support, information and specialist services to enhance student experience in the University. It is also a state-of-the-art multi-functional facility that provides students with a student-centered learning environment and it is also a central hub for support for students. The student center also provides secure accommodation for students in Douala and Buea. **Contact:** (+237) 657 166 447/673 550 388

### VII.12. Transport and Logistics

It is responsible for providing adequate vehicles or transportation services to Faculty, Staff, Students and Visitors of the University. For more information, contact them at (+237) 677 05 06 07 or by email: [transport@cuib-cameroon.net](mailto:transport@cuib-cameroon.net).



*A SANR student presenting his research finding at a conference*



*Broilers production by students*





**WE WISH YOU A WONDERFUL  
ACADEMIC YEAR 2018/2019**

