



## **Tuning Africa Phase II**

### **5th General Meeting**

**Brussels, 13 - 15 November 2017**



**TABLE OF CONTENTS**

1. Agenda ..... 2

    1.1. General Agenda ..... 2

    1.2. Agenda for the 8 Subject Area Groups (Agricultural Sciences, Economics, Civil Engineering, Geology, Higher Education Management, Mechanical Engineering, Medicine and Teacher Education) ..... 5

    1.3. Agenda for the TAPAG ..... 8

2. Participants ..... 10

**WORKING DOCUMENTS**

3. DOCUMENT: Subject Area Final Report - Agriculture Sciences..... 35

4. DOCUMENT: A proposal to establish African Credit Transfer Systems ..... 71

    4.1. English version ..... 71



## 1. AGENDA

### 1.1. General Agenda

**TUNING AFRICA PHASE II**  
**Agenda for the Fifth General Meeting**  
**13 to 15 November 2017**  
**Brussels, Belgium**

#### **Accommodation**

Thon Hotel Brussels City Centre  
Avenue du Boulevard 17  
Phone: +32 2 205 15 11  
Brussels  
Belgium

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**Sunday 12 November 2017:** Arrival of Tuning Africa II participants

**18.00 – 20.30**                      Registration

**20.30**                                 Dinner: Thon Hotel Brussels City Centre

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**Monday 13 November 2017**

#### **Albert Borschette Conference Centre (CCAB)**

(European Commission)  
36 Avenue Froissart  
B-1040 Brussels  
Belgium

#### **Morning Session**

##### **PLENARY**

**8.00 – 9.00**                      Registration

**9.00 – 9.30**                      Official Opening and welcome

**9.30 – 10.00**                      Harmonization Strategies in African Higher Education: main policies from African Union and European Union perspectives.  
Tuning and its contribution to the process  
Beatrice Njenga, Head of Education Division, African Union Commission  
Deirdre Lennan, Directorate General for Education and Culture, European Union Commission,  
Pablo Beneitone, Director Tuning Academy, University of Deusto

Chair: Charles Awono Onana, Director, Ecole Nationale Supérieure Polytechnique, Yaoundé I, Cameroon

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**10.00 – 10.30**

Designing programmes following the Tuning methodology: some reflections from Subject Area Groups

Round Table:

- New programmes in Agricultural Sciences: Hortense Atta Epse Daillo
- Revised programmes in Applied Geology: Digne Edmond Rwabuhungu R.
- Joint programmes in Mechanical Engineering: Charles Awono Onana
- Relevance of the new/revised programmes for employability from the Higher Education Management perspective: Ronald Bisaso

Chair: Ahmed ElGohary, President, Egypt-Japan University for Science and Technology (E-JUST)

**10.30 – 11.00**

Coffee Break

**11.00 – 11.30**

A Implementation of Tuning at University level: some experiences from Subject Area Groups

Round Table:

- Staff development initiatives: identification of needs and strengths for the implementation of Tuning in Medicine, Segun Akyniyinka
- Impact of the *Course design for outcomes based learning in higher education* - Tuning Staff Development Course at institutional level from the Economics perspective, Charles Barnor
- Importance of *Assessment for learning* - Tuning Staff Development Course in Civil Engineering, Stanley Shitote
- Staff Development Workshops strategy: some experiences in Teacher Education, Honoratha Michael Kisenge Mushi, Open University of Tanzania

Chair: Hortense Atta Epse Daillo, University of Nangui Abrogoua

**11.30 – 12.15**

A Credit System from a global perspective

Round Table:

- Europe and ECTS credits: Robert Wagenaar, Director of Tuning Academy, University of Groningen, the Netherlands
- Latin American Credit: Leticia Suñe, Federal University of Bahia / Faculty of Technology and Sciences - FT, Brazil
- Russia and its credit system: Vera Ivanovna Zobotkina, Vice-Rector for International Cooperation, Russian State University for the Humanities, Russian Federation
- A Proposal to establish African Credit Transfer System: Damtew Teferra, Professor of Higher Education and leader of Higher Education Training and Development, University of Kwazulu-Natal, South Africa

Chair: Yohannes Woldetensae, Senior Education Expert, African Union Commission

**12.15 – 14.00**

Lunch: CCAB Building cantine

**Afternoon session**

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- 14.00 – 14.30** Tuning and HAQAA: bridging two initiatives  
Julia González, Tuning Academy Senior Advisor  
Elizabeth Coluci and Youhansen Eid, representatives of HAQAA project
- Chair: Etienne Ehouan Ehile, Secretary General, Association of African Universities
- 14.30 – 15.00** Research actions in Tuning Africa and their links with the Tuning Journal for Higher Education  
Lupo Dona dalle Rose, Editor of the Tuning Journal for Higher Education – University of Padova, Italy  
Anna Serbati, Assistant Editor of the Tuning Journal for Higher Education - University of Padova, Italy  
Ladislav Bizimana, Manager Editor of the Tuning Journal for Higher Education – University of Deusto, Spain  
Mohammad Megahed, Emeritus Professor of Solid Mechanics, Cairo University, Egypt
- Chair: Damtew Teferra, Professor of Higher Education and leader of Higher Education Training and Development, University of Kwazulu-Natal, South Africa
- 15.00 -15.30** The Student Voice in the African Harmonization Process in Higher Education.  
Short presentations from students
- Chair: Digne Edmond Rwabuhungu R., Student Voice Taskforce, Head, University of Rwanda.
- 15.30 – 16.00** Summary of Tuning Africa II main outcomes and their relevance for AU and EU aims  
Beatrice Njenga, Head Education Division, African Union Commission  
Deirdre Lennan, Directorate General for Education and Culture, EU Commission,  
Pablo Beneitone, Director Tuning Academy, University of Deusto
- 16.00 – 16.15** Certificate Ceremony
- 16.15 – 16.30** Official Closing
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## 1.2. Agenda for the 8 Subject Area Groups (Agricultural Sciences, Civil Engineering, Economics, Geology, Higher Education Management, Mechanical Engineering, Medicine and Teacher Education)

Tuesday 14 November 2017

Thon Hotel Brussels City Centre  
Avenue du Boulevard 17  
Brussels  
Belgium

### **ALL PARTICIPANTS WILL TAKE PART IN PARALELL WORKSHOP SESSIONS**

**09.00 – 10.30**

**Workshop sessions on 6 different topics:**

- **Enabling academics to facilitate student ownership of learning through innovative assessment practices**, Zubeida Desai, University of the Western Cape, South Africa (English)
- **Case-Based Lectures**, Badr Mesbah, Suez Canal University, Egypt, Medicine SAG, EN
- **Student Centered Learning: Introduction to the Team-based Learning approach**, Esther Sakyi-Dawson, University of Ghana, Ghana (English)
- **Promoting Constructive Alignment Between ILOs, Learning Activities, Teaching, and Assessment Methods**, Jorge Fringe, Universidade Eduardo Mondlane, Mozambique (English)
- **Rédaction des Résultats d'apprentissage visés et début de séquençage**, Seydou Tiho, Université Nangui Abrogoua, Ivory Coast (French)
- **Travail des Étudiants dans le Système de Crédit**, Jean Baptiste Ramaroson, Université d'Antananarivo, Madagascar (French)

**10.30 – 11.00**

Coffee Break

**11.00 – 12.30**

**Continuation of Workshop sessions on 6 different topics**

**12.30 – 14.00**

Lunch: Thon Hotel Brussels City Centre

### **WORKING IN SUBJECT AREA GROUPS**

**14.00 – 15.30**

**Finalizing outcomes of Tuning Africa II**

Discussion and general agreements in relation to Subject Area Group final report:

- 1) Introduction
  - Presentation of the countries involved in the SAG
  - Presentation of the Members/Universities
- 2) Definition of generic competences- A thematic perspective
  - Brief analysis of the generic competences from subject area perspective.
  - Highlight some particular aspects considered and/or not considered in the list of generic competences for Tuning Africa.
- 3) Identification of specific competences

- Presentation of the subject specific competences agreed in the group.
  - Explanation of the process followed to achieve the list of subject specific competences.
  - Institutional/national/subregional/continental/international references that the SAG took into account to achieve the list of subject specific competences.
- 4) Consultation and reflections
    - Presentation of analysis of the results of generic competences survey (in relation to SAG perspective).
    - Presentation of analysis of the results of subject specific competences survey
    - Interpretation of the results.
  - 5) Elaboration of Meta-Profiles
    - Description of the process followed by the SAG to agreed a meta- profile.
    - Presentation of the meta –profile as a graphic.
    - Explanation of the main components/elements of the Meta – profile and how it is linked to the previous steps (generic and subject specific competences agreed).
  - 6) Contrast of Meta – profile at regional level
    - Reflection on the coincidences and differences between the meta-profile and real degree profiles at the Universities.
  - 7) Some examples of revised/new programmes
    - Presentation of some examples of revised/new programmes elaborated. (NOT ALL programmes, only 2 or 3 as examples)
  - 8) Reflection on staff development: needs and possibilities at SAG level
    - Description of the main strengths and needs in terms of staff development at SAG level. Some proposals to address these challenges.
  - 9) Student Workload reflection
    - Relevance of a continental credit system. Issues affecting its adoption that are related to the SAG.
    - Main issues arising from the workload consultation for the SAG.
  - 10) Conclusions
    - Final considerations and proposals for future activities.

Document: - Draft version of Subject Area Report

**15.30 – 16.00** Coffee break

**16.00 – 17.30** Continue with final agreements related to SAG report.

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### **Wednesday 15 November 2017**

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### **WORKING IN SUBJECT AREA GROUPS**

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**9.00 – 10.30**

**Subject Area Group Final Report**

Strategies for dissemination of Tuning Africa II outcomes at continental, regional, national and institutional level.

Inventory of possible approaches.

Assignment of tasks for the coming weeks.

**10.30 – 11.00**

Coffee break

**11.00 – 12.30**

**A Credit System proposal for Africa.**

General reflection on the Document.

Suggestions and improvements.

Discussion of how to implement the proposal at institutional level.

Exchange of views and experiences.

Recommendation of strategies for implementation.

Document: - *A Credit System proposal for Africa*

**12.30 – 14.00**

Lunch: Thon Hotel Brussels City Centre

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**Departure**





### 1.3. Agenda for the Tuning Africa Project Advisory Group (TAPAG)

**Tuesday 14 November 2017**

Thon Hotel Brussels City Centre  
Avenue du Boulevard 17  
Brussels  
Belgium

#### **ALL PARTICIPANTS WILL TAKE PART IN PARALELL WORKSHOP SESSIONS**

<b>09.00 – 10.30</b>	<b>Workshop sessions on 6 different topics:</b> <ul style="list-style-type: none"><li>• <b>Enabling academics to facilitate student ownership of learning through innovative assessment practices</b>, Zubeida Desai, University of the Western Cape, South Africa (English)</li><li>• <b>Case-Based Lectures</b>, Badr Mesbah, Suez Canal University, Egypt, Medicine SAG, EN</li><li>• <b>Student Centered Learning: Introduction to the Team-based Learning approach</b>, Esther Sakyi-Dawson, University of Ghana, Ghana (English)</li><li>• <b>Promoting Constructive Alignment Between ILOs, Learning Activities, Teaching, and Assessment Methods</b>, Jorge Fringe, Universidade Eduardo Mondlane, Mozambique (English)</li><li>• <b>Rédaction des Résultats d'apprentissage visés et début de séquençage</b>, Seydou Tiho, Université Nangui Abrogoua, Ivory Coast (French)</li><li>• <b>Travail des Étudiants dans le Système de Crédit</b>, Jean Baptiste Ramaroson, Université d'Antananarivo, Madagascar (French)</li></ul>
<b>10.30 – 11.00</b>	Coffee Break
<b>11.00 – 12.30</b>	<b>Continuation of Workshop sessions on 6 different topics</b>
<b>12.30 – 14.00</b>	Lunch: Thon Hotel Brussels City Centre
<b>14.00 – 15.30</b>	<b>Linking Tuning Africa II outcomes to continental, regional and national policies.</b> Open discussion focussed on: <ul style="list-style-type: none"><li>- <i>What are the policies each organisation is promoting linked to Tuning Africa II?</i></li><li>- <i>How to enhance dissemination of Tuning Africa II outcomes and extend the debate to other higher education institutions in Africa?</i></li><li>- <i>How to support Tuning implementation at institutional level?</i></li></ul>
<b>15.30 – 16.00</b>	Coffee Break
<b>16.00 – 17.30</b>	Strategies for dissemination of Tuning Africa II outcomes at continental, regional and national level. Inventory of possible approaches.



### **Wednesday 15 November 2017**

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- 9.00 – 10.030** Discussion on how to implement Tuning Africa II outcomes at institutional level.  
Exchange of views and experiences.  
Recommendation of strategies for implementation.
- 10.30 – 11.00** Coffee Break
- 11.00 – 12.30** **Summary of the outcomes achieved in the TAPAG**  
- Strategies for dissemination of Tuning Africa II outcomes  
- Recommendations for implementation at different levels
- 12.30 – 14.00** Lunch: Thon Hotel Brussels City Centre

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**Departure**



## 2. PARTICIPANTS

The organisational structure of the project is as follows:

- Management Committee
- 8 Subject Area Working groups
- TAPAG – Tuning Africa Policy Advisory Group

### 2.1 Management Committee

The responsibility of the Management Committee is to carry out specific tasks required by the project. It is made up of the 9 general co-ordinators of the project and other regional representatives. One co-ordinators of each SAG s will be joining the MC as well.

In addition, in the Management Committee there exists a Coordination Unit in charge of the practical aspects of taking the project forward, and responsible for the administrative and financial management involved in achieving this. This Coordination Unit will be assisted by an IT professional, in charge of keeping online forms and questionnaires up to date, managing virtual discussion fora, administration of the Portal, and the management of all technology necessary for the development of the project.

### 2.2 List of Participants by Subject Area

Currently, 123 academics from 105 African universities are participating in 8 working groups based around different disciplines (Agricultural Sciences, Applied Geology, Civil Engineering, Economics, High Education Management, Mechanical Engineering, Medicine and Teacher Education). The universities selected are centres of national excellence in the disciplines they represent and have demonstrated an ability to engage in dialogue with other institutions that work in the same knowledge areas. They have a significant presence in the system (size of the institution, track record, credibility and academic authority) such that a considerable part of the system is represented by their participation.

#### AGRICULTURAL SCIENCES

<p><b>Benin</b> Université Catholique de l'Afrique de l'Oest , UCAO-UUC (Phase II)</p>
<p><b>Benin</b> Université d'Abomey-Calavi</p>
<p><b>Burundi</b> Université de Ngozi</p>
<p><b>Cameroon</b> Université de Dschang</p>



<b>Ghana</b> University of Ghana
<b>Ivory Coast</b> Université Nangui Abrogoua
<b>Kenya</b> Egerton University
<b>Madagascar</b> Universite d'Antananarivo
<b>Mauritius</b> University of Mauritius
<b>Morocco</b> Université Mohammed Premier
<b>Nigeria</b> Federal University of Agriculture
<b>Nigeria</b> University of Ilorin
<b>Senegal</b> Université Gaston Berger
<b>Sudan</b> Sudan University of Science and Technology (Phase II)
<b>Swaziland</b> University of Swaziland (Phase II)

#### **APPLIED GEOLOGY**

<b>Alger</b> Ecole Nationale d'Ingénieurs de Tunis
<b>Burkina Faso</b> A2iE -Institut International d'Ingénierie de l'Eau et de l'Environnement

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<b>Cameroon</b> Université de Maroua
<b>Democratic Republic of Congo</b> Université de Lubumbashi
<b>Ethiopia</b> Adama Science and Technology University
<b>Ivory Coast</b> Université des Sciences et Technologies de Côte d'Ivoire (USTCI)
<b>Kenya</b> Jomo Kenyatta University of Agriculture and Technology (JKUAT)
<b>Lybia</b> Sebha University
<b>Madagascar</b> Université d' Antananarivo
<b>Mauritania</b> Université des Sciences, Technologie et Médecine (USTM)
<b>Nigeria</b> University of Nigeria, NSUKKA
<b>Rwanda</b> University of Rwanda
<b>South Sudan</b> Juba University
<b>Tunisia</b> Faculté des Sciences de Tunis

## CIVIL ENGINEERING

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<b>Alger</b> Université Mouloud Mammeri de Tizi Ouzou
<b>Benin</b> Université d'Abomey-Calavi (Phase II)
<b>Botswana</b> University of Botswana
<b>Cameroon</b> Université de Douala
<b>Cape Verde</b> Universidade Jean Piaget de Cabo Verde (Phase II)
<b>Democratic Republic of Congo</b> Université de Kinshasa
<b>Egypt</b> Assiut University (Phase II)
<b>Egypt</b> Tanta University (Phase II)
<b>Ethiopia</b> EiABC - Addis Ababa University
<b>Ghana</b> Kwame Nkrumah University of Science and Technology (Phase II)
<b>Kenya</b> Moi University
<b>Nigeria</b> Ahmadu Bello University
<b>South Africa</b> University of Pretoria
<b>South Sudan</b> Juba University
<b>Tanzania</b>



University of Dar Es Salaam

## ECONOMICS

### Alger

Université 8 mai 1945 Guelma

### Angola

Katyavala Bwila University

### Burkina Faso

UNIVERSITE OUAGA II

### Cameroon

Université de Yaoundé II

### Cape Verde

ISCEE - Instituto Superior Ciências Económicas e Empresariais

### Democratic Republic of Congo

Université de Goma (UNIGOM)

### Djibouti

Université de Djibouti

### Egypt

Cairo University

### Eritrea

College of Business and Economics

### Ethiopia

St. Mary's University

### Ghana

University of Professional Studies, Accra (UPSA)

### Kenya

Masinde Muliro University of Science and Technology (MMUST)

### Lesotho

National University of Lesotho

14

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<b>Morocco</b> Université Hassan 1er de Settat
<b>Nigeria</b> University of Calabar
<b>Tanzania</b> Open University of Tanzania

## HIGHER EDUCATION MANAGEMENT

<b>Cameroon</b> Université de Yaoundé II
<b>Egypt</b> Alexandria University
<b>Ethiopia</b> Jimma University
<b>Ivory Coast</b> Université Alassane Ouattara
<b>Kenya</b> Kenyatta University
<b>Mauritius</b> University of Mauritius
<b>Nigeria</b> Nnamdi Azikiwe University, Awka, Nigeria
<b>Nigeria</b> University of Ilorin
<b>South Africa</b> University of Kwazulu Natal

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<b>South Africa</b> University of Pretoria
<b>Tanzania</b> University of Dar Es Salaam
<b>The Netherlands</b> independant Expert
<b>Tunisia</b> Université de Tunis
<b>Uganda</b> Makerere University

## MECHANICAL ENGINEERING

<b>Alger</b> Akli Mohand Oulhadj (Phase II)
<b>Cameroon</b> Universite de Yaounde I
<b>Democratic Republic of Congo</b> Institut Superieur de Techniques Appliquees , ISTA/KINSHASA
<b>Democratic Republic of Congo</b> Université de Lubumbashi (Phase II)
<b>Egypt</b> Cairo University
<b>Egypt</b> Egypt-Japan University of Science and Technology (Phase II)
<b>Eritrea</b> Eritrea Institute of Technology (Phase II)



<b>Ethiopia</b> Dilla University (Phase II)
<b>Ethiopia</b> Jimma University
<b>Ghana</b> Kwame Nkrumah University of Science and Technology
<b>Lybia</b> University of Zawia (Phase II)
<b>Malawi</b> University of Malawi – The Polytechnic
<b>South Africa</b> Cape Peninsula University of Technology
<b>South Africa</b> Stellenbosch University
<b>Tunisia</b> Ecole Nationale d'Ingénieurs de Tunis
<b>Zambia</b> Copperbelt University

## MEDICINE

<b>Alger</b> Universite d'Alger 1
<b>Democratic Republic of Congo</b> Université Catholique de Bukavu (Phase II)
<b>Egypt</b> Menoufia University (Phase II)



<b>Egypt</b> Suez Canal University
<b>Ethiopia</b> Mekelle University
<b>Kenya</b> University of Nairobi
<b>Mali</b> Université des Sciences, des Techniques et Technologies de Bamako (Phase II)
<b>Morocco</b> Université Cadi Ayyad de Marrakech
<b>Mozambique</b> Universidade Eduardo Mondlane (Phase II)
<b>Nigeria</b> Ebonyi State University Nigeria
<b>Nigeria</b> University of Ibadan
<b>Senegal</b> Universite Cheikh Anta Diop de Dakar
<b>Senegal</b> Université de Thiès (Phase II)
<b>Somalia</b> University of Health Sciences (Phase II)
<b>South Africa</b> University of Cape Town
<b>Tunisia</b> Faculty of Medicine of Monastir
<b>United Kingdom</b> Independant Expert



## TEACHER EDUCATION

<b>Angola</b> Katyavala Bwila University (Phase II)
<b>Botswana</b> Botho University (Phase II)
<b>Burundi</b> Université Espoir d'Afrique (Phase II)
<b>Egypt</b> Alexandria University
<b>Ethiopia</b> Arsi University
<b>Gabon</b> Université Omar Bongo
<b>Gambia</b> University of The Gambia (Phase II)
<b>Kenya</b> African Virtual University (Phase II)
<b>Mozambique</b> Universidade Eduardo Mondlane
<b>Namibia</b> University of Namibia
<b>Nigeria</b> Benue State University Makurdi (Phase II)
<b>Nigeria</b> National Open University of Nigeria
<b>Nigeria</b> University of Nigeria, Nsukka



<b>Somalia</b> Mogadishu University
<b>South Africa</b> University of the Western Cape
<b>Tanzania</b> Open University of Tanzania
<b>Uganda</b> Makerere University, College of Education and External Studies School of Education
<b>Zimbabwe</b> University of Zimbabwe

### 2.3 List of Participants at Tuning Africa Policy Advisory Group (TAPAG)

<b>Angola</b> Fórum da Gestao do Ensino Superior nos Países e Regioes de Língua Portuguesa (FORGES)
<b>Botswana</b> Southern African Development Community (SADC)
<b>Burkina Faso</b> Conseil Africain et Malgache pour l' Enseignement Superieur (CAMES)
<b>Egypt</b> National Authority for Quality Assurance and Accreditation in Education (NAQAEE)
<b>Ethiopia</b> Ethiopian Chamber of Commerce and Sectoral Associations (ECCSA)
<b>Ghana</b> All- African Students Union (AASU)
<b>Ghana</b> Erasmus Mundus Students and Alumni Association (EMA)

20

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<b>Kenya</b> African Council For Distance Education (ACDE)
<b>Kenya</b> Pan African University (PAU)
<b>Kenya</b> Commission for University Education
<b>Jordan</b> Association of Arab Universities (AARU)
<b>Mozambique</b> National Council for Assessment and Quality Assurance of Higher Education (CNAQ)
<b>Nigeria</b> The African Quality Assurance Network (AfriQAN)
<b>Nigeria</b> Association of West Africa Universities (AWAU)
<b>Nigeria</b> ECOWAS Commission Abuja
<b>Senegal</b> National Authority for Quality Assurance (NAQA-Sud)
<b>South Africa</b> Southern African Regional Universities Association (SARUA)
<b>Tanzania</b> Inter-University Council for East Africa



### **3. WORKING DOCUMENT: SUBJECT AREA FINAL REPORT**

#### **AGRICULTURAL SCIENCES**

##### **1.0 INTRODUCTION**

###### **1.1 Agricultural Science in the African Context**

Agriculture is one of the earliest human activities, dating from primitive states of social development. It can be defined as the set of activities that transforms the environment for the production of animals and plants designed for human use. Agricultural sciences encompasses broad multidisciplinary fields that cover not only the study of plants, animals, and soil, but also the economic and social sciences that are applied to the practice and understanding of food production, processing and preservation. This field covers the study of plants and animals used for food and fibre, from production to final consumption, including their transformation into other useful products.

###### **1.2 Importance of agricultural sciences to Africa**

Agriculture plays an important role in Africa's development. In Africa, the study of agricultural sciences helps in developing human capacity for the rational creation and exploitation of nutrition sources for the population and plays an equally important role in the development of economic systems. A high percentage of the people of Africa depend on agriculture as a source of livelihood. This sector contributes the highest percentage of the gross domestic product (GDP) of most developing countries. Indeed, agriculture provides about 70 per cent of employment and 30 per cent of Sub-Saharan gross domestic product.

For many African countries, agricultural sciences engage the workforce for food and fibre production. Agriculture is an important foreign exchange earner in the continent. It provides the raw materials for many industrial processes. Agriculture, therefore, plays a critical role in the economic development of most African countries.

An educational system for high-functioning agriculture is necessary to provide the requisite human capacity for sustaining the enterprise and requires the skilled management of resources for sustainable development. Therefore, agricultural education should produce graduates who understand the vital role that agriculture plays in the rural and economic development of Africa.

###### **1.3 Agricultural curriculum reform and modernisation**

Agricultural production in Africa has not been able to keep pace with modern developments. At present, farmers in Africa are still working with rudimentary tools and employing age-old technologies. They have little exposure to modern technological developments and education that will enable a more skilled exploitation and preservation of their natural resources.

In Africa, the Faculties or Colleges of Agriculture in many conventional universities provide most of the higher education in agriculture that is available, although a few specialized universities are exclusively dedicated to agriculture. Outside of universities, agricultural education is also offered at polytechnics and other higher colleges of agriculture where ordinary and higher diplomas are offered on completion of the programmes.



Higher education courses in agriculture are offered on first, second and third cycles in these institutions, usually leading to the award of a diploma, bachelor/licence, or master's degree (MSc/MPhil) and PhD in agriculture and its related fields. The duration of the first-cycle programmes varies from three to five years, the duration of the second-cycle programmes varies between one and two years, while completing the PhD may vary from three to five years depending on the specific country and university. A typical programme offers broad-based general training for the first two or three years with specialisation in a particular area of agriculture occurring in the final stages of the bachelor's degree programme.

Among the challenges facing Africa today is the failure of many African agricultural graduates and professionals to work effectively with rural farmers, bringing to bear on agricultural practises the industry, skills and competences that they are expected to have acquired in their various institutions. It is with the belief that the challenge of food insecurity can be solved if agricultural graduates acquire the necessary skills and competences that can help them to revolutionise age-old, traditional agriculture by focusing modern skills, competences and technology to improve agricultural production and processing across the continent. The project was therefore committed to drawing out the series of generic and specific competences that have, as their primary goal, the advancement of agricultural education towards modern reforms.

#### **1.4 Member Countries of the Tuning Africa Agricultural Sciences Group**

Agriculture was identified as a priority subject. The composition of the agricultural sciences group covered the five regions of Africa and the participating universities were:

1. Benin Republic: Guillaume Lucien AMADJI, Professor of Soil Science and Vice-Dean, Faculty of Agricultural Science at the University of Abomey-Calavi, Benin.
2. Burundi: Jean NDIMUBANDI, Professor of Agricultural Economics and Dean, Faculty of Agricultural Science at the University of Burundi.
3. Cameroon: Christopher Mubeteneh TANKOU, Lecturer in Crop Science at Faculty of Agronomy and Agricultural Sciences, University of Dschang, Dschang, Cameroon.
4. Côte d'Ivoire: Taky Hortense ATTA EPSE DIALLO, Professor of Plant Pathology at the Université Nangui Abrogoua (formerly Université d'Abobo-Adjame), Abidjan, Côte d'Ivoire.
5. Ghana: Samuel Kwame OFFEI, Professor of Biotechnology, and Provost of the College of Agriculture and Consumer Sciences, University of Ghana, Accra, Ghana.
6. Kenya: Alexander Kigunzu KAHU, Professor of Animal Breeding and Genomics, and Dean, Faculty of Agriculture, Egerton University, Egerton, Kenya.
7. Madagascar: (a) Jean Roger Emile RASOARAHONA, Professor of Food Science and Dean Higher School of Agronomic Science, and (b) Randrianary Jean Baptiste RAMAROSON, Professor of Food Science and Technology and Vice Dean, School of the Higher School of Agronomic Science, Université d'Antananarivo, Antananarivo, Madagascar.
8. Mauritius: Kamleshwar, BOODHOO, Professor of Tropical Animal Production and Head of Agricultural Production and Systems, Faculty of Agriculture, University of Mauritius, Reduit, Mauritius.
9. Morocco: Ahmed ELAMRANI, Professor of Biochemistry and Plant Physiology, and Coordinator, Master of Food Science and Food Safety, Mohammed I University, Science Faculty, Department of Biology, Oujda, Morocco.



10. Nigeria: Yemi AKEGBEJO-SAMSONS, Professor of Fisheries and Coastal Resources Management, University of Agriculture, Abeokuta, Nigeria.

11. Nigeria: Olubunmi Abayomi OMOTESHO, Professor of Agricultural Economics; former Dean, Faculty of Agriculture, University of Ilorin, Ilorin, Nigeria.

13. Senegal: Mariama SENE, Gaston Berger University, Senegal. Her PhD is in parasitology.

14. South Africa: Puffy SOUNDY, Tshwane University of Technology, South Africa. He is a Professor and a horticulturalist.

### 1.5 Types of degree programmes in Agricultural Sciences

Agricultural Sciences undergraduate degree programmes in Africa are mainly offered in Universities. The degree varies in names, lengths and the final qualifications, as shown in Table 1. The length of courses varies between 8 and 12 semesters, with 10 being the most common.

Table 1 Degree Profiles in Agriculture in Some African Universities

		Group 1	Group 2	Group 3	Group 4	Group 5
a	Structure of the study program	Faculty of Agriculture/ Agronomy/ Faculty of	Faculty of Science/ Technology/	Faculty of Agriculture / Agronomy	Faculty / College of Agriculture	High School / of Agricultural Science
b	Terms/semester, credits/	Semester/credit	Credit /modular/ semester	Semester/ yearly / credit/ modules	Semester/ credit/	Yearly
c	Typical first degrees offered (duration of	BSc(Agric)/Licence (option)	BSc /BTech (option)/ Licence	BSc Agric, (Option)	BAgric BTech/BSc (Option)	—
	Duration of bachelor's programme	3 years	3 years/4 years	3 or 4 years	5 years	none
	Duration of master's programme	2 years	2 years	1 or 2 years	2 years	5 years professional master/ingéni
	Duration of PhD	3-5 years	3-5 years	3-5 years	3-5 years	Diploma of 1 year. Advanced

### 1.6 Core elements of agricultural studies

Table 2 presents the core elements and academic scope covered in the training of agriculturalists in Africa as reported by participants in the agriculture component of Tuning Africa.

Table 2 Agricultural Specialisations and Their Core Elements

Specialisation within the Subject Area	Core Elements	Sub-Groups within the Core Elements	Support Elements
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1	Animal sciences	Animal biology, zoology, physiology, nutrition, animal health, pasture genetics, breeding, re- production,	Subject matter sci- ences, economics, management sciences, extension	Mathematics, physics, biology, chemistry, language, ICT, statistics, geology, cartography
2	Plant sciences/ crop sciences/ horticulture	Farming systems genetics, physiology, plant nutrition, seed sci- ence, breeding, crop protection, botany, biotechnology manage- ment	Subject matter sci- ences, economics, management sciences, extension	
3	Soil sciences	Soil biology, soil chemistry, soil physics, soil ecology, soil micro- biology, soil mechanics, soil clas- sification	Subject matter sci- ences, economics, management sciences, extension	
4	Agricultural extension	Communication, rural sociology, general agriculture, information	Subject matter sci- ences, economics, management sciences	
5	Food science and technology	Biochemistry, food chemistry, microbiology, processing, food engineering, food safety and quality, food machinery, nutri- tion and toxicology	Subject matter sci- ences, economics, management sciences, nutrition education/ extension	
6	Fisheries and aquaculture	Zoology, fish biology hydrobi- ology, limnology fish nutrition, aquaculture fish pathology and health, fish quality and fisheries	Subject matter sci- ences, economics, management sciences, extension	Mathematics, physics, biology, chemistry, language, ICT, statistics geology cartography
7	Forestry and wildlife /conservationists	Botany, zoology, wood engi- neering, wood science, wildlife management, ethnoforestry, agro-forestry.	Subject matter sci- ences, economics, management sciences, extension	
8	Agricultural economics / agro- business management	Farm management, marketing, agri-business, agric. dev. & pol- icy, micro- and macro- econom- ics,	Subject matter sci- ences, economics, management sciences, extension	
9	Agricultural engineering/ irrigation engineering	Irrigation, drainage, farm ma- chinery, farm structures, post- harvest technology, GIS	Subject matter sci- ences, economics, management sciences, extension	
10	Agricultural biotechnology	Molecular biology, bio- informat- ics, genomics bio- ethics, micro- biology, diagnostics	Subject matter sci- ences, economics, management sciences, extension	
11	Water resources and agrometeorology	Hydrology, climatology,	Subject matter sci- ences, economics, management sciences	



## 2.0 DEFINITION OF GENERIC COMPETENCES

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Olubunmi Abayomi OMOTESHO, University of Ilorin, Nigeria  
Ahmed ELAMRANI, Université Mohammed Premier Oujda , Morocco

- Definition of generic competences- A thematic perspective
- Brief analysis of the generic competences from subject area perspective.
- Highlight some particular aspects considered and/or not considered in the list of generic competences for Tuning Africa

### 2.1 Definition of Competences

The Tuning competence-based approach makes it possible to consult stakeholders. The concept of competences includes learning outcomes. Tuning distinguishes between generic (relevant to any study programme) and subject competences

Competences refer to the cognitive and meta-cognitive skills, knowledge and understanding, interpersonal, intellectual and practical skills and values (ethical, cultural, attitudinal, experiential and creative) to be obtained by a learner before the learner can earn the degree, certificate or diploma certifying training in the field of study.

Generic competences are also known as transferable skills or general academic skills. They are general to any degree programme and can be transferred from one context to another. They are common to any degree and are expected to be acquired by anybody that has gone through any period of study. Africa. One major feature of the Tuning program is the focus on these 'generic competences', which are supposed to be acquired by graduates irrespective of their area of specialization.

This is how the Tuning project began its work on a consistent system of developing degrees. The degrees would be competence-based and have student outcomes as the central focus. In other words, the critical focus of these degrees would be learners' development of competences that could be clearly evaluated by a number of different participant groups. This methodology was developed around three axes that organized clusters of processes: (1) The degree profile, (2) The degree programme and (3) The path of the learner.

To accomplish this first collective task of defining generic competences for Agriculture Subject area, the Group prepared a list of the generic/ transversal competences considered to be relevant to the African region. Our members first reflected on and discussed our own understanding of the socio-economic needs of the Agriculture area. Then we analyzed the lists found in the current literature and those selected by previous Tuning groups. This task was finalized when the group has understood, broadly discussed and reached consensus on a selection of competences thought to be most appropriate for our region. We approached this task from a rich intercultural perspective since we the participants come from different countries and cultural backgrounds. The final stage occurs at the general group level where understanding, debate and agreement were reached. It is a process of enrichment and responsibility raising awareness that focused on relevance and is expressed in the common language at the group level. This task was also conducted with the subject-specific competences.

We identified the core elements in terms of competences that would make an Agriculture degree identifiable and hence recognizable. It was based on the knowledge of and the joint debate about each specific agriculture area that most tellingly identifies with the work of Tuning that formed our work. The process of using the five topics below led us to the reference points:



- (a) From their particular background, they analyze how the academics in each group would define their specific area.
- (b) Which competences are the core contributions of each area to the development and advancement of society?
- (c) Which are the core elements in a particular subject area or field of knowledge and how may they be determined?
- (d) Which competences can be considered core for those attaining a qualification in this particular field and at each of the levels?
- (e) Which competences, although not core, are most needed in the region?

## 2.2 Definition of generic competences- A thematic perspective

In order to determine what generic competences should be expected from a graduate in Agriculture in Africa, there were extensive deliberations among representatives of the subject-specific disciplines conducted in Yaoundé, Cameroon during the "Tuning Africa" meeting held on 23<sup>rd</sup>-25<sup>th</sup> January 2012. A final list of 18 competences was identified as shown in Table 3.

Table 3 Generic Competences for African Agricultural Graduate

List of Generic Competencies	
1	Ability for conceptual thinking, analysis and synthesis
2	Professionalism, ethical values and commitment to UBUNTU <sup>1</sup>
3	Capacity for critical evaluation and self-awareness
4	Ability to translate knowledge into practice
5	Objective decision making and practical cost effective problem solving
6	Capacity to use innovative and appropriate technologies
7	Ability to communicate effectively in official /national and local language
8	Ability to learn to learn and capacity for lifelong learning
9	Flexibility, adaptability and ability to anticipate and respond to new situations
10	Ability for creative and innovative thinking
11	Leadership, management and teamwork skills
12	Communication and interpersonal skills
13	Environmental and economic consciousness
14	Ability to work in an intra and intercultural and/or international context
15	Ability to work independently
16	Ability to evaluate, review and enhance quality
17	Self confidence, entrepreneurial spirit and skills
18	Commitment to preserve and add value to the African identity and cultural heritage

### 3.0 Subject Specific Competences

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- Olubunmi Abayomi OMOTESHO, University of Ilorin, Nigeria
- Ahmed ELAMRANI, Université Mohammed Premier Oujda , Morocco

- Identification of specific competences
- Presentation of the subject specific competences agreed in the group.
- Explanation of the process followed to achieve the list of subject specific competences.
- Institutional/national/subregional/continental/international references which SAG took into account to achieve the list of subject specific competences.

#### 3.1 Identification of Specific Competences

**Subject specific competences** refer to the knowledge, skills, abilities and values that should be possessed by individuals who have gone through a period of certified study on a particular subject. The Agriculture Science expert group deliberated upon the competences that they expect their graduates to possess after going through the first-degree program in Agriculture.

16 subject specific competences were identified as follows:

1. Have the Knowledge and understanding of Agricultural production, and basic sciences
2. Should be able to identify problems and apply knowledge to solving day to day agricultural challenges.
3. Ability to evaluate and manage agricultural projects, as well as carry out financial appraisals
4. Should possess entrepreneurial and creative skills
5. Should be able to design, plan and implement agricultural research.
6. Should be able to do business in any part of the world
7. Ability to understand, and adapt to new and emerging technologies in Agriculture, including ICT.
8. Ability to implement sustainable practices and technologies for the management of natural resources.
9. Have ability for independent thinking and be able to work with minimal supervision in the area of agriculture
10. Ability to adapt and transfer technology, as well as be able to create new technologies.
11. Ability to know, advice and implement agricultural policies, and regulations
12. To make sustainable use of water and other natural resources for agricultural use.
13. Ability to understand and work within the organization, business and community management of the rural sector.
14. Ability to identify pests, pathogens, and weeds associated with crops, animals and their products.
15. Ability to improve quality and safety along the agricultural value chains.
16. Ability to select and manage machinery, implements and equipment for agricultural use in different farming systems.

## 4.0 Consultation and Reflections

Taky Hortense ATTA EPSE DIALLO Université Nangui Abrogoua

- Presentation of analysis of the results of generic competences survey (in relation to SAG perspective).
- Presentation of analysis of the results of subject specific competences survey
- Interpretation of the results.

### 4.1 Consultation Process

The Agriculture subject group carried out an extensive consultation by means of a questionnaire. Questionnaires on generic and subject-specific competences were sent to academics, students, employers and graduates. Respondents were asked to rank the importance of the eighteen generic and sixteen subject competences and the extent to which they thought these competences are currently being achieved. Respondents were also asked to rank each of these two dimensions along a four-point scale in which 1 = “none”, 2 = “weak”, 3 = “considerable” and 4 = “strong”.

A total of 1,203 respondents provided answers to the questionnaire on generic and subject-specific competences (Table 4).

Table 4 Number of respondents per stakeholder group in the Agriculture area

Subject Areas	Number of respondents to questionnaire on generic and subject-specific ompetences				
	Academics	Employers	Students	Graduates	Total
Agriculture	312	204	381	306	1,203

### 4.2 Analysis of Results on Generic Competences and Interpretation

The ratings assigned by all stakeholder groups to the eighteen generic competences are presented in Table 5.

#### 4.2.1 Highest ranked Competences

All the stakeholder groups agreed on the ranking for the top position “Ability to translate knowledge into practice (No. 4). The “Ability for conceptual thinking, analysis and synthesis” (No. 1) was ranked second by the stakeholders except the students who ranked this as fourth. “Professionalism, ethical values and commitment to UBUNTU (respect for the well-being and dignity of fellow human beings)” (No. 2) was ranked in 3rd position by the academics; 5th by the employers and on 6th by students and graduates. “Objective decision making and practical cost effective problem solving” (No. 5) was ranked 7th by academics and students, and 3rd by employers, while the graduates ranked it 4th. The “Capacity to use innovative and appropriate technologies” (No. 5) was not ranked among the first 7 by employers., while “Leadership, management and teamwork skills” (No. 11) was not ranked among the first seven competences by students; The “ability for creative and innovative thinking” was not among the first seven competences ranked by graduates; and “Self-confidence, entrepreneurial spirit and skills” (No.17) was not considered among the first seven competences by both the academics and employers.



Table 5 Rating of Stakeholders on the Importance (import) and Level of Achievements (achiev) and the difference between the rating of the perceived importance and the real achievement (gap) of the 18 Generic competences

General Competences	Academics			Employers			Students			Graduates		
	Import	achiev	gap	import	achiev	gap	Import	achiev	gap	Import	achiev	gap
1 Ability for conceptual thinking, analysis and synthesis	3,67	2,74	0,93	3,74	2,71	1,03	3,5	2,72	0,78	3,59	2,84	0,75
2 Professionalism, Ethical values and commitment to Ubuntu	3,57	2,57	1	3,68	2,56	1,12	3,49	2,73	0,76	3,47	2,65	0,82
3 Critical Evaluation and Self Awareness	3,61	2,56	1,05	3,59	2,54	1,05	3,4	2,7	0,7	3,44	2,66	0,78
4 Ability to translate knowledge into practice	3,73	2,74	0,99	3,73	2,63	1,1	3,59	2,68	0,91	3,62	2,73	0,89
5 Objective decision-making, and practical cost effective problem solving	3,55	2,46	1,09	3,68	2,56	1,12	3,38	2,66	0,72	3,53	2,67	0,86
6 Capacity to use innovative and appropriate technologies	3,6	2,48	1,12	3,64	2,58	1,06	3,44	2,46	0,98	3,54	2,59	0,95
7 Ability to communicate effectively in official/national and local languages	3,56	2,81	0,75	3,57	2,76	0,81	3,46	2,88	0,58	3,44	2,82	0,62
8 Ability to learn, to re-learn, and capacity for life-long learning	3,47	2,64	0,83	3,53	2,65	0,88	3,32	2,76	0,56	3,48	2,86	0,62
9 Flexibility, adaptability and ability to anticipate and respond to new situations	3,57	2,49	1,08	3,59	2,53	1,06	3,42	2,65	0,77	3,59	2,67	0,92
10 Ability for creative and Innovative thinking	3,58	2,45	1,13	3,67	2,51	1,16	3,49	2,67	0,82	3,54	2,62	0,92
11 Leadership, Management and Team work skills	3,57	2,61	0,96	3,65	2,71	0,94	3,52	2,84	0,68	3,64	2,79	0,85
12 Communication, interpersonal skills	3,59	2,65	0,94	3,55	2,66	0,89	3,45	2,8	0,65	3,56	2,91	0,65



	General Competences	Academics			Employers			Students			Graduates		
		Import	achiev	gap	import	achiev	gap	Import	achiev	gap	Import	achiev	gap
13	Environmental and Economic consciousness	3,35	2,55	0,8	3,48	2,6	0,88	3,46	2,79	0,67	3,34	2,76	0,58
14	Ability to work in an intra and intercultural and or international context	3,51	2,56	0,95	3,39	2,45	0,94	3,35	2,5	0,85	3,37	2,69	0,68
15	Ability to work independently	3,61	2,74	0,87	3,65	2,72	0,93	3,41	2,86	0,55	3,6	2,97	0,63
16	Ability to evaluate, review and enhance quality	3,57	2,49	1,08	3,62	2,57	1,05	3,35	2,84	0,51	3,52	2,8	0,72
17	Self-confidence, Entrepreneurial spirit and skills	3,57	2,46	1,11	3,69	2,58	1,11	3,56	2,83	0,73	3,6	2,71	0,89
18	Commitment to preserve and to add value to the African identity and cultural heritage	3,14	2,23	0,91	3,01	2,13	0,88	3,21	2,5	0,71	3,06	2,42	0,64

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#### 4.2.2 Lowest ranked Competences

There were closer agreements on the lowest ranked competences - (ranking places 13 – 18): “Commitment to preserve and to add value to the African identity and cultural heritage” (No.18) was ranked 18th by employers and academics, 17th by graduates and on 15th by students. “The ability to work in an intra and intercultural and/or international context” (No. 14) was ranked 18th by graduates and students, 17th by employers and 16th by academics. “The ability to evaluate, review and enhance quality” (No.16) was ranked 15th by academics, 13th by employers and graduates and 17th by students. “The ability to communicate effectively in official/national and local language” (No. 7) was ranked 13th by academics, 15th by employers and 16th by graduates and students. “Environmental and economic consciousness” (No. 13) was ranked low by all groups (18th by students and graduates; 17th by employers and 16th by academics).

The gaps between the rating of the perceived importance and the perceived achievement of the eighteen generic competences by the four groups surveyed (academics, employers, students and graduates) are also presented in Table 5.

#### 4.3 Analysis of Results on Subject-specific Competences and Interpretation

As done for the generic competences, the sixteen identified Agriculture subject-specific competences were subjected to a stakeholders analysis using a questionnaire by requesting 4 groups of stakeholders; **academics, employers, students, and graduates** to rate the “importance” and the current level of “achievement” of each of the sixteen competences on a scale of 4 as follows: 4= strong, 3 = moderate, 2=weak, 1 =none.

The views of the four groups of stakeholders are presented in Table 6.

##### 4.3.1 Highest ranked Competences

There is great agreement regarding the top five rankings. The academics, students and employers considered «Knowledge and understanding of agricultural production, and basic sciences» as the most important competence, and the “Ability to identify problems and apply knowledge to solving day-to-day agricultural challenges” in the second position, it was the opposite for the graduates.

All four groups were in close agreement regarding the “Ability to design, plan and implement agricultural research”. They ranked it either third or fourth. Competence (No. 4) “Possession of entrepreneurial and creative skills” was ranked third by employers and graduates, fourth by academics and fifth by students. “Ability to evaluate and manage agricultural projects, as well as carry out financial appraisals” (No. 3) was ranked fifth by academics, employers and fourth by students.

The gaps between the rating of the perceived importance and achievement of the sixteen specific competences assigned by the four groups surveyed (academics, employers, students and graduates) are also presented in Table 6.

Table 6 Stakeholders Perception of the Subject Specific Competences for Agricultural Graduates

		Academics			Employers			Students			Graduates		
		import	achiev	gap	import	achiev	gap	import	achiev	gap	import	achiev	gap
1	Have the Knowledge and understanding of Agricultural production, and basic sciences.	3,80	3,37	0,43	3,82	3,14	0,68	3,67	3,27	0,4	3,72	3,27	0,45
2	Should be able to identify problems and apply knowledge to solving day to day agricultural challenges.	3,75	2,84	0,91	3,73	2,75	0,98	3,60	2,94	0,66	3,71	2,87	0,84
3	Ability to evaluate and manage agricultural projects, as well as carry out financial appraisals.	3,65	2,64	1,01	3,63	2,67	0,96	3,49	2,78	0,71	3,61	2,68	0,93
4	Should possess entrepreneurial and creative skills.	3,61	2,58	1,03	3,59	2,36	1,23	3,48	2,75	0,73	3,53	2,60	0,93
5	Should be able to design, plan and implement agricultural research.	3,71	2,84	0,87	3,67	2,66	1,01	3,52	2,80	0,72	3,68	3,00	0,68
6	Should be able to do business in any part of the world.	3,27	2,31	0,96	3,17	2,21	0,96	3,40	2,58	0,82	3,37	2,48	0,89
7	Ability to understand, and adapt to new and emerging technologies in Agriculture, including ICT.	3,73	2,60	1,13	3,62	2,66	0,96	3,48	2,59	0,89	3,68	2,53	1,15
8	Ability to implement sustainable practices and technologies for the management of natural resources.	3,69	2,69	1	3,65	2,57	1,08	3,39	2,68	0,71	3,56	2,73	0,83
9	Have ability for independent thinking and be able to work with minimal supervision in the area of agriculture.	3,61	2,68	0,93	3,65	2,65	1	3,38	2,78	0,6	3,50	2,83	0,67
10	Ability to adapt and transfer technology, as well as be able to create new technologies.	3,55	2,63	0,92	3,51	2,36	1,15	3,27	2,33	0,94	3,47	2,54	0,93
11	Ability to know advice and implement agricultural policies, and regulations.	3,47	2,74	0,73	3,53	2,46	1,07	3,36	2,61	0,75	3,49	2,54	0,95
12	To make sustainable use of water and other natural resources for agricultural use.	3,58	2,90	0,68	3,58	2,62	0,96	3,56	2,87	0,69	3,57	2,66	0,91



13	Ability to understand and work within the organization, business and community management of the rural sector.	3,50	2,74	0,76	3,42	2,71	0,71	3,43	2,73	0,7	3,51	2,75	0,76
14	Ability to identify pests, pathogens, and weeds associated with crops, animals and their products.	3,51	2,35	1,16	3,58	2,79	0,79	3,48	3,03	0,45	3,49	2,95	0,54
15	Ability to improve quality and safety along the agricultural value chains.	3,65	2,45	1,2	3,55	2,45	1,1	3,47	2,89	0,58	3,57	2,77	0,8
16	Ability to select and manage machinery, implements and equipment for agricultural use in different farming systems.	3,43	2,21	1,22	3,36	2,36	1	3,40	2,56	0,84	3,41	2,46	0,95

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The Preference ranking of the Sixteen Agricultural Subject Specific Competences is presented in Table 7.

Table 7 Stakeholders Ranking of the Agricultural Subject Specific Competences<sup>2</sup>

	Subject Specific Competences	Preference Ranking Positions by Stakeholders			
		Academics	Employers	Students	Graduates
1	Have the Knowledge and understanding of Agricultural production and basic sciences.	1	1	1	2
2	Should be able to identify problems and apply knowledge to solving day to day agricultural challenges.	2	2	2	1
3	Ability to evaluate and manage agricultural projects, as well as carry out financial appraisals.	5	5	4	5
4	Should possess entrepreneurial and creative skills.	4	3	5	3
5	Should be able to design, plan and implement agricultural research.	3	4	3	4
6	Should be able to do business in any part of the world.	7	8	7	7
7	Ability to understand, and adapt to new and emerging technologies in Agriculture, including ICT.	8	7	12	9
8	Ability to implement sustainable practices and technologies for the management of natural resources.	9	10	8	11
9	Have the ability for independent thinking and be able to work with minimal supervision in the area of agriculture.	12	14	15	15
10	Ability to adapt and transfer technology, as well as be able to create new technologies.	10	9	6	14
11	Ability to know advice and implement agricultural policies, and regulations.	15	15	9	10
12	To make sustainable use of water and other natural resources for agricultural use.	11	11	14	8
13	Ability to understand and work within the organization, business and community management of the rural sector.	14	12	10	12

<sup>2</sup> Order of Ranking from 1(Most Preferred) to 16 ( Least Preferred)



	Subject Specific Competences	Preference Ranking Positions by Stakeholders			
		Academics	Employers	Students	Graduates
14	Ability to identify pests, pathogens, and weeds associated with crops, animals and their products.	16	6	11	13
15	Ability to improve quality and safety along the agricultural value chains.	13	13	16	16
16	Ability to select and manage machinery, implements and equipment for agricultural use in different farming systems.	6	16	13	6

- (a) Presentation of the subject specific competences agreed in the group.
- (b) Explanation of the process followed to achieve the list of subject specific competences.
- (c) Institutional/National/sub-regional/continental/international references which SAG took into account to achieve the list of subject specific competences.



#### 4.3.2 Lowest ranked Competences

The responses of academics, students, graduates and employers surveyed showed a level of agreement with regards to competences that they rated as least important. Indeed, all four groups rated three competences among the last six in the table: “Ability to understand and work within the organisation, business and community management of the rural sector” (No. 13), “Ability to select and manage machinery, implements and equipment for agriculture use in different farming systems” (No. 16) and “Ability to design, plan and implement agricultural research” (No. 5).

#### 4.4 Correlations between the responses of the stakeholders

As shown in Table 8, there is high correlation between the responses of the academics and the employers regarding the importance of generic competences (0.898), the achievement (0.852) and the ranking (0.889).

The analysis of the subject-specific competences showed a stronger correlation coefficient with regard to importance (0.928), achievement (0.917) and their ranking (0.939).

In contrast, the correlation between the assessments of students and academics/employers of the generic competences was lower than that of the academics and employers with: 0.71 on importance, 0.531 on achievement and 0.751 on ranking.

However, for the subject-specific competences, the correlation for importance was low (0.578) while the correlations for achievement and ranking were 0.793 and 0.881 respectively. The agreement between the rating and the ranking of the groups is very high.

**Table 8 Correlation Coefficients for Generic Competences**

		Academics	Employers	Students	Graduates
Importance	Academics	1			
	Employers	0.89824490			
	Students	0.71026404	0.77808954		
	Graduates	0.89361795	0.92399307	0.7386277	1
Achievements	Academics	1			
	Employers	0.85299060	1		
	Students	0.53145745	0.68507961	1	
	Graduates	0.80006793	0.8321150	0.73690882	1
Ranking	Academics	1			
	Employers	0.88976372	1		
	Students	0.86624967	0.75119360	1	
	Graduates	0.9394775	0.91714947	0.9081643	1

#### 4.5 Reflection on the Consultation

According to the agriculture group the overall results are in line with the expectations. The high correlation between academics and employers in all aspects indicates the very close cooperation and interaction between these two groups. One explanation could be that students seeking degrees in agriculture work on placements and write final theses with their employers.



The big differences in the rankings done by graduates and employers could be due to the workplace in the different work settings. Graduates of agriculture science very often do not find jobs in the field of agriculture. They work in banks, schools, or in government offices while the questionnaires were only sent to employers in the field of agriculture.

The differences between the rankings assigned by students and by graduates could be explained by the fact that students, still at the university, may not have a full knowledge of the competences needed in their future employment.

## 5.0 Elaboration of Meta-Profiles

Mariama SENE WADE, Université Gaston Berger, Senegal  
Christopher Mubeteneh TANKOU, Université de Dschang, South Africa

- Description of the process followed by the SAG to agree a meta-profile.
- Presentation of the metaprofile as a graphic.
- Explanation of the main components/elements of the Meta – profile and how it is linked to the previous steps (generic and subject specific competences agreed).

### 5.1 Generalities

Graduates need to be adequately prepared for the realities of earning a living in today's highly competitive job market. This responsibility has to be shared by different actors both inside and outside the education sector. Effective learning objectives are attained by performing learning activities in a certain order in the context of the learning environment (Nikolov et al. 2014). The meta-profile provides a capacity for recognition throughout an entire region and also in relation to the global context. It takes into consideration the university where the programme is anchored, its mission and strengths. The Agricultural Science group of the Tuning Africa program constructed a meta-profile with the participating universities from different countries to establish an acceptable structure of the field in the African region.

### 5.2 Creating the Agriculture Meta-Profile

A Meta-profile reflects the structure and the interrelation of competences that characterize a particular subject area

In developing the meta-profile for agriculture, the Tuning team deliberated on the competences that should constitute the core and supportive elements of an agricultural study program. Core elements are indispensable competences that all agricultural graduates should acquire. Supporting elements are other competences that are related to the core elements.

The team considered the rankings provided by the results of a survey of stakeholder respondents ranging from the students through the lecturers to the employers before categorizing the identified competences into their core and supportive components. The competences were thus obtained as result of researching the existing economic sector competence demands after identifying different job profiles. This analysis enabled the classification, structuring and weighting of competences. The questions as to how they could be grouped, and the linkages and the differences in importance, led to the creation of





the meta-profile. Competences were grouped based on some essential common characteristics.

### 5.2.1 Core Elements

The effectiveness and efficiency of an educational programme greatly depends on the philosophy used to design curriculum. If specific competencies are not focused in the curriculum design philosophy, the products of the programme may not be “work-ready” and therefore not readily accepted by the job market (Sudsomboon and Anmanatarkul, 2007). The Core Elements for Agriculture were identified as follows:

- S1 Have the Knowledge and understanding of Agricultural production, and basic sciences.
- S2 Should be able to identify problems and apply knowledge to solving day to day agricultural challenges
- S3 Ability to evaluate and manage agricultural projects, as well as carry out financial appraisals
- S4 Should possess entrepreneurial and creative skills.
- S5 Should be able to design, plan and implement agricultural research

### 5.2.2 Supporting Elements

The supporting elements were categorised into the following groups:

- ✓ Learning Process
- ✓ Social Values
- ✓ Organisation and Communication Skills
- ✓ Innovation
- ✓ Technical / Technological capacity

The competences under each identified Supporting groups included the following competences:

#### 1. Learning Process<sup>3</sup>:

This implies the development of competencies (understandings and skills) that enable students to take critical action. Issues will emerge out of the themes or contexts that are currently being studied. Students should be able to use critical thinking to explore the issues. They analyse the issue and their ideas about it to determine what is possible and go on to identify what could help them to achieve their goal and what could hinder them. They develop a plan of action and implement it. After completing their action, students evaluate the outcome(s) and identify what they have learned from the experience (even if their original goal has not been achieved). The evaluation may reveal that there are other factors that need to be addressed before their goal can be realised. The competences identified to suit the learning process were:

- G1 Ability for conceptual thinking, analysis and synthesis
- G3 Capacity for critical evaluation and self-awareness
- G4 Ability to translate knowledge into practice
- G5 Objective decision making and practical cost effective problem solving
- G8 Ability to learn to learn and capacity for lifelong learning
- S1 Have the knowledge and understanding of Agricultural production, and basic sciences
- S5 Should be able to design, plan and implement agricultural research

<sup>3</sup>'S' against the number represent Subject Specific competence, while 'G' indicates Generic Competence





- S7 Ability to understand, and adapt to new and emerging technologies in Agriculture, including ICT
- S10 Ability to adapt and transfer technology, as well as be able to create new technologies
- S11 Ability to know advice and implement agricultural policies, and regulations
- S14 Ability to identify pests, pathogens and weeds associated with crops, animals and their products
- S15 Ability to improve quality and safety along the agricultural value chains
- S16 Ability to select and manage machinery, implements and equipment for agricultural use in different farming systems

## 2. Social Values

3.

Graduates should be knowledgeable about the value base of the profession, its ethical standards, and relevant laws. They should be able to recognize and manage personal values in a way that allows professional values to guide practice and tolerate ambiguity in resolving ethical conflicts; and apply strategies of ethical reasoning to arrive at principled decisions. The competences that are required to achieve these are:

- G2 Professionalism, ethical values and commitment to UBUNTU (respect for the well being and dignity of fellow human beings)
- G7 Ability to communicate effectively in official/national and local language
- G9 Flexibility, adaptability and ability to anticipate and respond to new situations
- G11 Leadership, management and team work skills
- G12 Communication and interpersonal skills
- G13 Environmental and economic consciousness
- G14 Ability to work in an intra and intercultural and /or international context
- G18 Commitment to preserve and to add value to the African identity and cultural heritage
- S2 Should be able to identify problems and apply knowledge to solving day to day agricultural challenges
- S12 to make sustainable use of water and other natural resources for agricultural use
- S13 ability to understand and work within the organization, business and community management of the rural sector

## 4. Innovation

These are competences that prescribe the ideal patterns needed for exceptional performance. Changing environmental and market conditions continually force enterprises and service providers to offer their customers new and modified products and services in order to remain competitive. The competences identified to arm graduates in this respect include:

- G1 Ability for conceptual thinking, analysis and synthesis
- G4 Ability to translate knowledge into practice
- G6 Capacity to use innovative and appropriate technologies
- G10 Ability for creative and innovative thinking
- S5 Should be able to design, plan and implement agricultural research
- S10 Ability to adapt and transfer technology, as well as be able to create new technologies

## 5. Organization and Communication Skills

Organization and communication are vital skills both for managers and business owners as well as employees. Interacting with others is a large portion of many industries and having the necessary skills to interact with others is essential no matter the type of business. In order to fulfill this, graduates need the following competences:

40

*This initiative is implemented on behalf of the European and African Union Commissions by:*





- G7 Ability to communicate effectively in official national and local language
- G9 flexibility, adaptability and ability to anticipate and respond to new situations
- G11 Leadership, management and team work skills
- G12 Communication and interpersonal skills
- G14 Ability to work in an intra and intercultural context
- G15 Ability to work independently
- G17 Self-confidence, entrepreneurial spirit and skills
- S3 Ability to evaluate and manage agricultural projects as well as carry out financial appraisals
- S4 Should possess entrepreneurial and creative skills
- S5 Should be able to design, plan and implement agricultural research
- S6 Should be able to do business in any part of the world
- S7 Ability to understand and adapt to new and emerging technologies in Agriculture, including ICT
- S9 Have ability for independent thinking and be able to work with minimal supervision in the area of agriculture
- S11 Ability to know advice and implement policies and regulations
- S13 Ability to understand and work within the organization, business and community management of the rural sector

#### 6. Technical/Technological Capacity

The technology development capability of an agricultural enterprise leads to technical change that allows for a successful innovation process. Once a new product has been thought out, the enterprise needs to produce it on a commercial scale. This is possible with the operations capability, which materializes the product created by the technology development capability (**Zawislak et al. 2012**). In order to achieve this, graduates need the following competences:

- G4 Ability to translate knowledge into practice
- G6 Capacity to use innovative and appropriate technologies
- G9 Flexibility, adaptability and ability to anticipate and respond to new situations
- G10 Ability for creative and innovative thinking
- G16 Ability to evaluate, review and enhance quality
- S1 Have the knowledge and understanding of Agricultural production and basics sciences
- S5 Should be able to design, plan and implement agricultural research
- S7 Ability to understand and adapt to new and emerging technologies in Agriculture, including ICT
- S8 Ability to implement sustainable practice and technologies for the management of natural resources
- S10 Ability to adapt and transfer technology as well as be able to create new technologies
- S12 To make sustainable use of water and other natural resources for agricultural use
- S14 Ability to identify pest, pathogens and weeds associated with crops, animals and their products
- S15 Ability to improve quality and safety along the agricultural value chains
- S16 Ability to select and manage machinery implements and equipment for agricultural use in different farming systems

The inter-relationships between the Core and Supportive elements are as shown in Figure 2

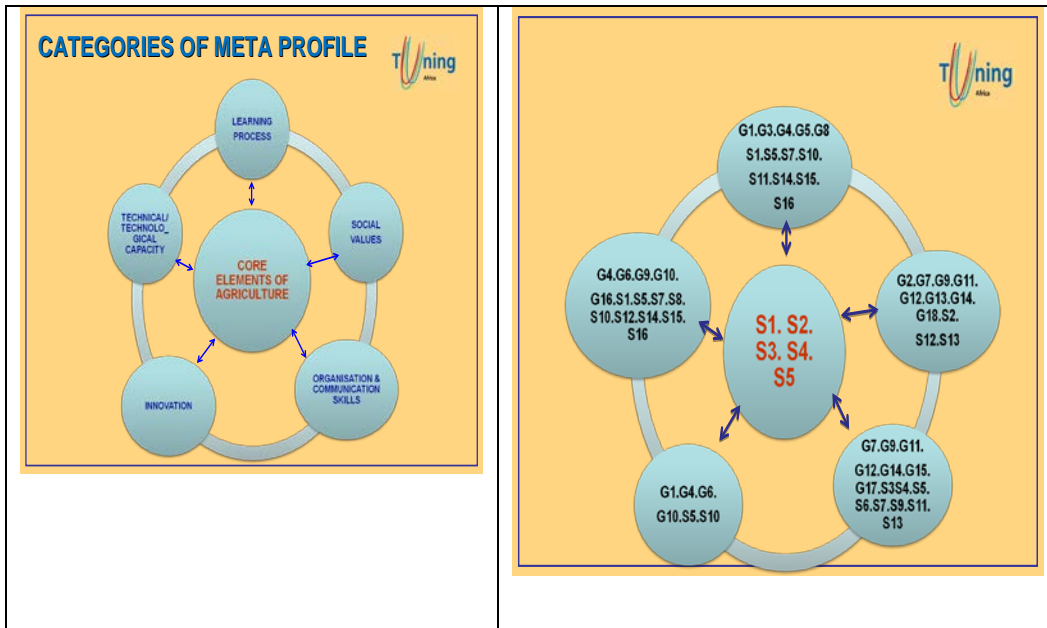


Figure 1 Meta-Profile for Agriculture (Core and Supportive Profiles)

Venn Diagram:

A Venn diagram showing the relationships among the components of the Core and Supportive groups was then constructed as in Figure 3

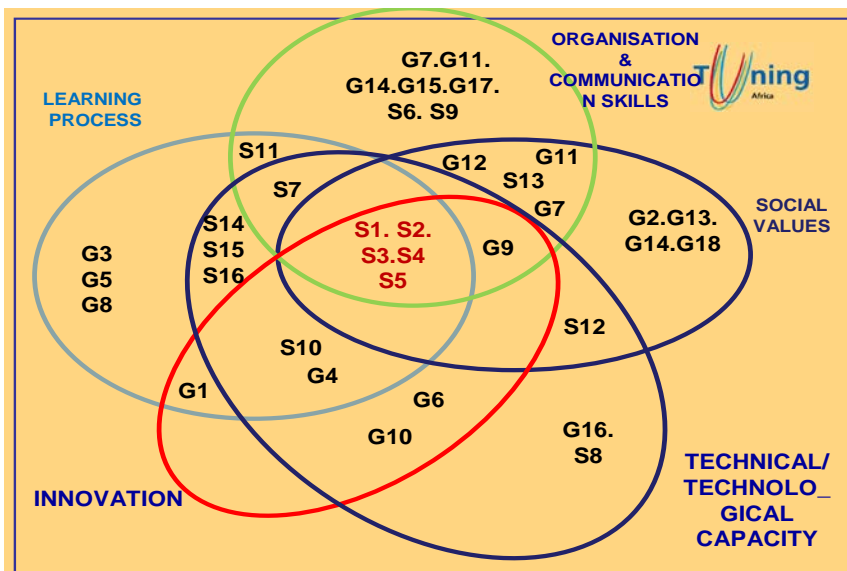


Figure 2 Venn Diagram of Agricultural Science Meta-Profiles ( Core and Supportive Profiles)



## 6.0 Contrast of Meta – profile at regional level

- Reflection on the coincidences and differences between the meta-profile and real degree profiles at the Universities.

Members of the group agreed on the lists of component competences identified and went further to classify the findings followed by creating a structure, portraying how they understood the ways in which the components related to each other as shown in the meta-profile above. However owing to local realities, the meta-profile could need some adjustments in some specific cases.

### 6.1 Contrast of Meta-Profiles at African Institutional and Regional Levels

The meta-profile agreed upon by participants in the Tuning Africa meeting in Cape Town was contrasted with the current degree profile of each participating institution. This process allowed the academics to reflect on the coincidences and differences with the meta-profile. Their general observations were as follows:

- All the generic competences were considered relevant and important in the agricultural programmes of the universities but were not always covered.
- The core elements were covered in all of the agricultural programmes. There was a good fit between the competences identified and the subject-specific competences in the programmes.
- A few subject-specific competences identified by the group were not currently in the programmes of some of the institutions, but members commented that their institutions desired to incorporate them in their courses.
- Members of the team were concerned about teaching and learning methods of some of the competences like “S4: Possesses entrepreneurial and creative skills”. Also “G8: “Ability to communicate effectively in official/national and local languages” became a point of lengthy discussion. Participants agreed that this particular competence may not be easy to achieve because of the diversity of languages in our countries.
- Participants also pointed out that it was not clear how institutions will be able to instil “G10: “Self-confidence, entrepreneurial spirit and skills” in students, particularly in courses with large classes with many students.
- Most of the group members indicated that their programmes are designed to ensure that, in addition to coursework at the university, students undertake further practical training during internship in industries and enterprises for periods ranging from three to twelve months. During these periods, the students would live and work in specialized domains. Such internships, however, affect the length of the bachelor’s degree programme, which, as described, can range from three to five years.

The participants also noted other good practices that could enhance the quality training of agricultural students:



- Fostering trainees – farmers’ interactions.
- Ensuring practical-centered course content in agricultural programmes. Tiechler (2000) indicated that curricula, teaching and learning for higher education should be more applied in nature or more practice oriented in various ways.
- Ensuring final-year students to undertake research write and defend a dissertation.
- Providing pedagogical training for newly recruited lecturers before they begin teaching.
- Bringing trainees in direct contact with farmers.
- Ensuring practice-centred content in agricultural programmes.
- Requiring final-year students to undertake research and write a dissertation.
- Providing pedagogical training for newly recruited lecturers before they begin teaching

## 6.2 Conclusion

The established relationships between the competences of the core elements and the supportive elements in the meta-profile revealed the required identity of an effective training in Agriculture in the African context. These results would be indispensable to guide effective curriculum development which would facilitate staff and student mobility within the region. This is further supported by the fact that all the participating universities expressed no significant contrast between the proposed meta-profile and their local realities

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## 7.0 Contrast of Meta – profile at regional level

Mariama SENE WADE, Université Gaston Berger, Senegal  
Christopher Mubeteneh TANKOU, Université de Dschang, South Africa

- Reflection on the coincidences and differences between the meta-profile and real degree profiles at the Universities.

## 7.1 Contrast of Meta-Profiles at African Institutional and Regional Levels

The meta-profile agreed upon by participants in the Tuning in Africa meeting in Cape Town was contrasted with the current degree profile of each participating institution. This process allowed the academics to reflect on the coincidences and differences with the meta-profile. Their general observations follow:

- All the generic competences were considered relevant and important in the agricultural programmes of the universities but were not always covered.
- The core elements were covered in all of the agricultural programmes. There was a good fit between the competences identified and the subject-specific competences in the programmes.
- A few subject-specific competences identified by the group were not currently in the programmes of some of the institutions, but members commented that their institutions desired to incorporate them in their courses.
- Members of the team were concerned about teaching and learning methods of some of the competences like “S4: Possesses entrepreneurial and creative skills”. Also “G8: “Ability to communicate effectively in official/national and local languages” became a point of lengthy discussion. Participants agreed that this particular competence may not be easy to achieve because of the diversity of languages in our countries.
- Participants also pointed out that it was not clear how institutions will be able to instil “G10: “Self-confidence, entrepreneurial spirit and skills” in students, particularly in courses with large classes.
- Most of the group members indicated that their programmes are designed to ensure that, in addition to coursework at the university, students will undertake further practical training on attachment communities for periods ranging from three to twelve months. During these periods, the students will live and work within the communities. Such detached duty, however, has implications for the length of the bachelor’s degree programme, which, as described, covers a range of three to five years.

The participants also called attention to other good practises that have been or could be adopted to ensure the quality training of agricultural students:

- Bringing trainees in direct contact with farmers.
- Ensuring practise-centred content in agricultural programmes.
- Requiring final-year students to undertake research and write a dissertation.





- Providing pedagogical training for newly recruited lecturers before they begin teaching.

## 8.0 Examples of revised/new programmes

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## 9.0 Reflection On Staff Development

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### 9.1 Overview

In recent years, the need for greater accountability and improvement in the quality of teaching has become a major issue in higher education (Onana et al., 2014). The African University faces increasing pressures arising from neglect of financing, deficiencies in information and communication technologies, poor job market, brain drain, and other factors. In addition, the last two decades has seen emergence of private universities that has meant that universities operate within an increasingly competitive environment based on choice and cost (Hahn and Teferra, 2013). There is an accepted need for the African University to be sufficiently able and agile to adapt to changes around student demand and funding arrangements and for it to capitalise on new opportunities for strategic alliances, research development, income diversity and new student markets. Responding to all these challenges requires the development of a high performance culture where staff development is supported facilitated and encouraged.

Staff development refers to the programs and activities planned and implemented by managers and staff members for the development of competencies (knowledge, skills and attitudes/values) needed by individual staff members with the view on organisational effectiveness and quality of work life. Partington & Stainton (2003) however laments that staff development activity in university education institutions appears under-resourced, performs a misunderstood function, and portrayed to be done rather than pursued for its own intrinsic and appreciated value.

In 2012, the African Union Strategy for Harmonization of Higher Education Programmes embraced the 'Tuning Methodology' as an instrument of choice for enhancement of higher education. The Tuning approach is a systematic and consultative process that collaboratively engages a host of internal and external stakeholders led by academics to identify, define and develop curricula and programs in view of their effective implementation, assessment outcomes and competences (Hahn and Teferra, 2013). To this end, elaboration and implementation of staff development was recognized as one of the requisite steps to be undertaken by academic staff hailing from over 120 African universities.

### 9.2 University-supported academic staff development opportunities

A wide range of learning and development activities are often provided to enhance the knowledge, skills and behaviours of all staff in order to meet the priorities of the University, Schools / Departments and individuals. They range from those facilitated by academic and management committees or units to those incidental initiatives identified by and for staff at local, regional or international levels.



### 9.3 Academic staff development committees or units

Universities often have academic staff development committees or units that may include nominated academic staff representatives. These committees or units consult in relation to the development of the University's academic staff development plans or programmes, focusing on the current and future skill requirements of staff and the University, and considering appropriate methods to be adopted in disseminating information on academic staff development. Staff performance review and enhancement programmes have long been an important part of ensuring understanding of the University's strategic direction and aims, as well as demonstrating how each individual's contribution connects to these overarching drivers. In some universities, this is the principal vehicle for professional and personal development planning and for connecting the development needs of the organisation with business capability, and career development.

From the discourse of the Tuning Africa Agricultural Sciences Group, it remained unclear whether University decision makers view staff development units or committees as viable ways to improve institutional outcomes and maintain institutional integrity. In fact, Partington & Stainton (2003) observe that university managers are often far remote from being staff developers. Effort is required wherein an enabling staff performance review and enhancement strategy could form a vital part of creating quality conversations and translating organisational strategies into individual objectives. Nevertheless, organization of staff development takes an institutional perspective on the whole. This latter aspect however brings in a second issue; that university institutions need to articulate development of comprehensive professional development plans that do not begin and end with themselves.

Staff development is akin to professional development. As such, while staff engage in individually and collectively to improve their practice and enhance student learning, professional development programs and resources should be sought and/or provided by a number of organizations or networks that include those outside the institutions that would benefit from envisaged collaboration. The identification of learning needs which are co-created with key stakeholders must consider the leading edge principle to ensure a University's standing as a higher education institution. The benefits of such an approach include increased creativity, enhanced innovation and challenge, and the provision of additional experience and knowledge. In South Africa for instance, staff development programs and interventions are aligned to the aims of the Skills Development Act and the National Skills Development Strategy, while attending to the priorities of Universities (North-West University, 2005).

### 9.4 University-supported initiatives

Courses of further and higher education and external events/one-off conferences/seminars are examples of university-supported initiatives to develop academic staff skills and effectiveness. Often, separate policy exists setting out guidelines for application and setting out arrangements on time off for attendance or study. There are some helpful matrices to help in planning staff development. For instance, some institutions offer mandatory staff development provision that at face value, as shown in Table 1 below, may seem tangential to learning and teaching. In this and other cases, attendance of certain interventions may, at times, be a requirement for certain duties, or for all staff in a particular department. The University may also commit itself to ensuring the provision of core skills training as a basis for ensuring best management practice and compliance with specified relevant standards or legislative requirements.





**Table 9 Illustration of learning and development inputs for mandatory staff development programme**

Provision	Aim
Induction/Initial Health and Safety Training	To ensure new staff are given the Health and Safety Training/briefing required for new or changed roles
Management Development	Staff appointed to a managerial role in the University should attend training and development appropriate to that role – for example in leading teams, carrying out performance and development reviews
Equality and Diversity	Staff, including those who take part in a selection or promotion panel, should have attended equality and diversity or recruitment and selection training
Initial Development Programmes (Induction)	Where it is a requirement of terms and conditions of employment, staff should attend the relevant mandatory course linked to probation – for example training for new academic staff.

Source: University of Manchester Staff Training and Development Policy, 2015.

**Table 10 Suggested core/ strategic staff development themes**

Core/ strategic staff development themes	Elaboration of some thematic elements
Organization of staff development in departments	Approaches to staff development Integrated approach to staff development
Staff development required by legislation	Workplace skills plan Equality and diversity Health and Safety
Staff development for learning and teaching	Student experience Improve academic qualifications
Staff development for research and scholarship	Partnerships and integration Entrepreneurial approaches
Staff development for leadership, management, and administration	Espoused culture and workplace values Leadership and leadership development Change management and transformation
Staff development for the use of new technology	E-learning E-resources
Evaluating staff development and harnessing its potential	Training needs analysis Learning theory and individual learning needs Institutionalized networking and benchmarking

## 9.5 Tuning Project and support for academic staff development

### 9.5.1 Identification of staff development plans

The Tuning Project allowed Tuning Associates to identify topics for staff development workshops at their respective institutions (Table 3). The topics identified implicitly illustrate that by and large, the emphasis in staff development endeavours for academic staff remains that of teaching and learning with all topics being given over to learning and teaching strategy. This mirrors the observation that often, university institutions are unable to harness the potential of staff development to elaborate dynamic sector-wide developments and issues (Partington & Stainton, 2003).

**Table 11 Topics identified for staff development workshops**

S/N	Name of Participant/ University	Country	Title of Workshop
1	K. Dansou Kossou, Université Catholique de l'Afrique de l'Oest	Benin	Evaluation et Intégration des approches pédagogiques dans la mise en œuvre d'un véritable système de mutualisation de la formation à L'UCAO
2	Christopher Mubeteneh Tankou, Université de Dschang	Cameroon	Importance of generic competences in curriculum development
3	Esther Sakyi-Dawson, University of Ghana	Ghana	Student-centered learning: innovative methods of teaching to enhance student learning
4	Seydou Tiho, Université Nangui, Abrogoua	Ivory Coast	Rédaction des Résultats d'Apprentissage Visés (RAV) et début de séquençage
5	R. Jean Baptiste Ramarison, Universite d'Antananarivo	Madagascar	Student workload in credit system
6	Kamleshwar Boodhoo, University of Mauritius	Mauritius	Writing learning outcomes for course units/module
7	Ahmed Elamrani, Université Mohammed Premier	Morocco	Culture entrepreneuriale lors des stages extra-universitaires
8	Yemi Akegbejo-Samsons, Federal University of Agriculture (FAU)	Nigeria	Capacity building workshop on improving the assessment of learners (students) competences in the three major agricultural resources management courses at FAU
9	Olubunmi Abayomi Omotesho, University of Ilorin	Nigeria	Capacity building workshop on enhancing the assessment of student competences in agricultural course
10	Rashid A. M. Hussein, Sudan University of Science and Technology	Sudan	Towards a African standard for Agricultural Engineering Education
11	Henry R. Mloza-Banda, University of Swaziland	Swaziland	Competence-based curriculum and instruction: agricultural sciences university graduate competences

There is need for a systematic planning process that combines first, the creativity and imagination necessary to produce an innovative and effective staff development programme and second, the development of a programme that achieves its goals in meeting participant and University needs (Alberta Education, 2004). This can be developed and evaluated using data harnessed from a typical evidence-based planning cycle. Built on what has been highlighted in Table 2 above, there may be multiple staff development plans in different stages of implementation at any given time. The Tuning Project achieved one of staff development for learning and teaching. Data for an environmental scan and participant and University needs assessment in support of planning, can be collected from such sources as existing documents and reports (including student learning and achievement data) and through such processes as participant surveys and focus groups (Alberta Education, 2004). In order for staff development to have real impact, much background research is necessary.



### 9.5.2 Conceptual change approach to staff improvement in higher education

The Tuning Project dissociated its approach from that described by Ho *et al.* (2001) where elsewhere staff development effort works on the assumption that providing tertiary educators with prescribed skills and teaching recipes will change their teaching practices and thus improve their students' learning outcomes. Ho *et al.*, (2001) cited contrary experiences where such methods are pursued. The Tuning *on-line* courses on competence-based curriculum, instruction and assessment were instead based on educators' conceptions of learning and teaching to explain limitations of their teaching skills developed from years of classroom experience as students and subsequently as teachers (Moon, 2001; Brown, 2004).

Specifically, the *on-line* courses engaged participants in four persuasive elements described by Ho *et al.* (2001): a self-awareness process whereby participants underwent a self-reflection and clarify personal conceptions; a confrontation process in which participants were brought to realise possible inadequacies in their existing conceptions and/or teaching practices and thus create an awareness for the need to change; an exposure to alternative conceptions to provide a direction and a model for improvement; and a commitment building process to encourage participants engage in changes and development.

The principles employed were intended for educators to migrate from 'teacher-centred/content-oriented' to 'student-centred/learning-oriented' modes of curriculum development, delivery and assessment. It is considered that a genuine improvement in teachers has to begin with a change in their thinking about teaching and learning (Ho *et al.*, 2001; Moon 2001, Brown, 2004). The African University is thus encouraged to embrace an approach to staff improvement in which teachers' prior conceptions of teaching are modified and changed to one of facilitating student learning before specific student-centred strategies could be eventually adopted.

### 9.5.3 Professional training for industry and public service

This paper proposes that Tuning Project could be involved in engaging new or specifically young members of faculty in an Africa region staff induction programme aligned to the major tenets of professional development. Induction has been classified as an important part of staff development and follows confirmation of the acceptance of a post (University of Wales, 2011). It is a training programme designed to help new members of staff to settle into their new role as swiftly and as easily as possible. This paper argues that such induction would be where building capacity 'outside the walls of the institution' becomes a standard goal of higher education at the inception of careers of young faculty. The African University remains challenged in making progress toward sharing knowledge with society and industry.

The present situation in Africa demands a renewed thrust for enhanced quality and relevance of higher agricultural education so as to facilitate and undertake human capacity building for developing self-motivated professionals and entrepreneurs in view the changing scenario of globalization of education, emergence of new areas of specialization such as IPRs, other WTO-related areas, techno-legal specialties etc., and the cutting edge technologies such as biosensors, genomics and biotechnology, alternative sources of energy, nanotechnology, etc. Young faculty needs to be inculcated with a mission of tertiary education expertise influencing national development goals on the continent in response to emerging trends. To this end, staff development cannot be left as a random activity nor encased within padlocked structures of human resources departments.

## 9.6 Evaluating the quality of staff development efforts



Guskey and Sparks (1991) observed that while staff development is essential for anyone directly involved with students and whose actions directly influence their learning, in itself, it would not likely bring about significant improvement. Students and the organization must change as well. The Tuning Project has attempted such a multifaceted effort addressing the three corner stones that are considered critical in enhancing total improvement effort on student learning outcomes.

Firstly, by inviting African universities' participation in enhancing the quality of education and employability through a learning outcome based approach to curriculum development. This objective was supported by peer-reviewing and implementing an existing academic programme or identification of a new programme elaborated using the Tuning approach. Second, Tuning made the results of all Tuning and Tuning-related projects accessible to the African academic community hailing from over 120 universities through online and face-to-face trainings, instructional meetings, and special training visits. This strategy enabled appropriate technical assistance to and sustained interaction among academic staff as prime participants in staff development. Third but not least, in the second phase of the project, the 'student voice' from participating universities was sought and students included in programmatic elements of Tuning.

Institutions participating in Tuning however need to evaluate staff development efforts, i.e., some assessment of the program's impact on participating staff, the organization, and students. For meaningful and enduring improvement, Guskey and Sparks (1991) suggested that evaluation of programs should include participant outcomes (the knowledge, skills, and/or attitudes of staff), organization outcomes (changes in institutional culture or in role responsibilities), and student outcomes (learning gains or affective and behavioural outcomes).

## 9.7 Conclusions

The AU-EU Tuning capacity building partnership model has brought immediate results through increased knowledge and skills of faculty and students, and institutional changes to update management, curricula, courses and teaching methods. Staff development remains a prerequisite for the University's ability to develop and maintain its learning and skills base, attract and retain quality staff, ensure delivery of competence-based curricula, and maintain and develop a respectable market position in higher education. Beyond university corridors, staff development must be integral and aligned to increased capacity of higher education faculty and institutions' support of national development goals.

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## 10.0 Student Workload reflection

- Esther SAKYI-DAWSON, University of Ghana
- Bonaventure MINANI, Université de Ngozi
- Relevance of a continental credit system. Issues affecting its adoption that are related to the SAG.
- Main issues arising from the workload consultation for the SAG.

### 10.1 Student academic workload

The Tuning Africa project included the definition of a credit reference system for Africa which reflects effort in terms of the time that students set aside for the curricular activities of their degree programme, whether they be those performed with support from lecturers and tutors or those performed individually and autonomously or in groups.

Student workload refers to the average time required to successfully complete all learning activities to achieve the specified learning outcome in a study programme/ a module / a course unit. Students workload consists of the time required to complete all planned learning activities such as attending lectures, seminars, independent and private study, preparation of projects, examinations and so forth. (indicated in hours).

### 10.2 Learning Process

A study was carried out on the time students devoted to their different subjects throughout one semester, in the countries represented in the group. A semester was chosen that was neither at the beginning nor the end of the programme, such as the fifth or sixth semester. Using a system of questionnaires distributed to students and teaching staff, each country's representative determined the time spent by students on their academic activities during the chosen semester. The layout of the questionnaire was the same for all subject areas and included questions on: the number and duration of contact sessions; time devoted to non-face-to-face activities, etc. The non-face-to-face activities that were assessed are as follows:

- Reading texts or bibliography.
- Preparing and developing assignments.
- Fieldwork.
- Laboratory.
- Preparing and developing written assignments.
- Virtual activities.
- Studying for assessment purposes.



The following activities were also identified as those that constitute the learning process:

- Lectures
- Practical lessons
- Dissertation
- Field Work / Visits / On-line discussions.
- Internships / Industrial Experience
- Independent Research and learning
- Tests / Assessments / Examinations.

Lecturers teaching the chosen subjects were also asked about their estimations regarding the number of non-contact hours their students should devote to the subject, and whether these contrasted with their students' estimations, in addition to other questions.

Students stated that on average they devoted a total of ..... hours during the semester, and lecturers stated that students should spend an average of ..... hours. The average number of weeks per semester was 15 weeks, which works out at an average of ..... ours per week according to student data, and ..... hours according to lecturers. These values proved to be quite close, with the time stated by students being only 4% longer than that stated by lecturers.

This survey has shown that students in most African universities were indeed overloaded.

### **10.3 Relevance of a continental credit system: Issues affecting its adoption**

#### **10.3.1 Importance of continental credit system**

Continental credit system is learner-centered for purposes of credit accumulation and transfer, and is based on the principle of transparency in learning, teaching and evaluation processes. It aims to facilitate the planning, implementation and evaluation of study programs and student mobility by recognizing learning outcomes, certifications and learning periods (CEDEFOP, 2010; EU, 2015).

Now, the harmonisation of higher education in the region is necessary for a number of reasons:

- Strengthening and promoting inter-regional and international co-operation in the field of recognition of qualifications;
- Defining and putting in place effective quality assurance and accreditation mechanisms at the national, regional and continental levels;
- Facilitating the exchange and greater mobility of students, teachers and researchers of the continent and the diaspora, by the recognition of qualifications delivered by other Parties in order to pursue higher education;
- Contributing to the harmonization of qualifications, taking into account current global trends;
- Furthering the setting up of high-level joint programmes between higher education institutions and supporting the award of joint degrees (Ngara, 2017).



An important reason for harmonising is that African countries have most diverse education systems.. This is largely due to the different colonial histories of the member states. In this regard, harmonisation will in part entail trying to reconcile education systems that have developed from the French, Portuguese and British systems.

### 10.3.2 Principles of credit

- (a) credits are based on the workload students need to achieve expected learning outcomes;
- (b) workload indicates the time students typically need to complete all learning activities;
- (c) measure of volume for ECTS credit is based on the principle that 60 ECTS credits are attached to the workload of a full-time year of formal (learning (academic year) and the associated learning outcomes;
- (d) credits are allocated to entire qualifications or study programmes as well as to their educational components (parts of programmes) (Knudsen, 1999; European Commission, 2009).

### 10.3.3 Results from survey carried out of Africa countries about credit weighting

The results from Table 12 show that Western , western, central, and Southern regions have respectively 100, 77.8, 66.7, 60 and 50 % of countries established the National Regulatory Agencies for BMD systems. The difference within countries is explained by multiple Systems based on colonial history and background.

**Table 12 Status of National Regulatory Agencies**

Regions	Countries Represented in the Study	Countries with Established National Regulatory Agencies	% of countries with established National Regulatory Agencies
Northern	Algeria, Egypt, Libya, Morocco, Sudan	Egypt, Libya, Sudan	60
Southern	Angola, Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland	Botswana, Lesotho, Mozambique, Namibia, South Africa	50
East	Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somali, Tanzania, Uganda	Burundi, Eritrea, Ethiopia, Kenya, Rwanda, Tanzania, Uganda	77,8
West	Benin, Burkina-Faso, Cape-Verde, Côte- d'Ivoire, Mali, Mauritania, Nigeria, Senegal	CAMES (Benin, Burkina-Faso, Cape-Verde, Côte- d'Ivoire, Mali, Mauritania, Nigeria, Senegal).	100
Central	Cameroon, DRC, Zimbabwe	Cameroon, Zimbabwe	66,7
Total	35	25	71,4

Results from Table 13 show also the credit system has been known in the African higher education system for many years.

**Table 13 Status of credit system**

Regions	Status of Credit System
---------	-------------------------

Northern	All the five countries are committed to the LMD system – Credit system exists. Not all universities operate on the credit system
Southern	Except Angola, all the other 8 countries have one form of credit or the other. All universities in Madagascar, Mauritius, Namibia and South Africa practice the Credit system. Not all universities in Botswana, Lesotho, Malawi, Mozambique and Swaziland operate the Credit system
Eastern	Credit system does not exist in Somalia. All the other countries operate the Credit system. Credit system started in Kenya in 1968 and Burundi is the latest to adopt the system in 2012.
Western	Started in Nigeria in 1968, Credit system exist in all West African countries. Some programs in Medicine exempted from the Credit system
Central	Started in Cameroon in 2007 and just introduced in Zimbabwe in 2016. DRC has no credit system. CAMES committed to the BMD

In Africa countries, the credit does not have the same value in all the countries and regions (Anglo-phone and Franco-phone credit systems differ) (Table 14). There is currently no credit transfer system among institutions in Africa. The load of credit is not comparable among the institutions in Africa (Oyewole, 2016).

**Table 14 Value of credit**

Value of One Credit Unit	Regions Where Applicable
10 hrs notional time made up of contact time + Structured learning+ workplace experience + Self study. ( 1 Unit=10 notional hours)	South/ North
15-18 hrs of lecture time + Structured learning + Workplace experience+ Self study + Assessment. ( 1 Unit=20-25 learner's hours	East Africa / Central/ North
15 Hrs Lectures + 10 hrs of independent work	East Africa/ Central

The credit load per year and program is different from the region to another (Table 15).

**Table 15 Credit Load Per Year and Program**

Regions	Credits per year	Bachelor	Master	Doctorate
North	30-60	120-180	130-136	-
South	18-60	60-120	60-180	120-480
East	36-60	60-420	120-360	-
West	30-60	180-360	36-180	120
Central	36-60	108-180	120	130

#### 10.4 Conclusion and recommendations

*This initiative is implemented on behalf of the European and African Union Commissions by:*





During the meeting held on in Accra / Ghana, after analysing challenges facing African Higher Education Space, the SAG noted that:

- There is need to have a common agreement on the definition and value of credit in the African higher education system in order to promote transferability and comparability.
- There is need for agreement on the workload of a credit unit.
- There is need to agree on number of credit units for each year for different programs (i.e. Bachelors, Masters and Doctorate).
- There is need for a harmonized continental credit system that balances Anglo-phone and Franco-phone countries.

#### **10.4.1 Adoption of continental credit system by SAG**

In that case, the SAG group agreed on the relevance of a continental credit system; The group also noted that credit is not always a prerequisite for students of several countries to apply to many overseas institutions. The SAG group adopted BMD system with 60 credits per year, (Bachelor: 180 credits; Master: 120 credits, and doctorate minimum 180 credits).

#### **10.4.2 Issues affecting its adoption**

- Diverse credit systems already used;
- Lack of clear definition of a credit and how its value is determined;
- Lack of sensitization on the benefits of having a continental credit system;
- Political will and support.

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#### **11.0 Conclusions**

This Tuning Africa project has afforded agricultural academics from twelve countries representing the five regions of Africa to meet and deliberate on the skills and competences that graduates who earn degrees in agriculture from African universities may be expected to possess. The acquisition of these competences is directly tied to their ability to contribute to African development.



As part of its task, the Agricultural Services team identified eighteen generic and sixteen subject-specific competences. Its analysis of the current status of participating universities, noted the necessity of improving the curricula to ensure that graduates are better equipped with the desired competences.

A meta-profile for agricultural science was developed in the course of this project as well as a matrix that any university in Africa could use to evaluate its agricultural programmes. Participants have been (and will be) able to bench-mark their institution's curricula against the developed meta-profiles.

The working group strongly recommends that agricultural institutions should regularly evaluate their curricula to ensure that it is delivering the expected competences. It is hoped that the results of the work carried out by the Computer Science Area members, within the context of the Tuning Latin America project, will provide specific contributions that may produce better curricular proposals for educating Computer Science professionals and create a Latin American Higher Education Area.



#### **4. WORKING DOCUMENT: A proposal to establish African Credit Transfer Systems**

##### **4.1 ENGLISH VERSION**



**FOR ENDORSEMENT**

**Prepared on Behalf of the**

**African Union Commission and European Commission  
within the Framework of Tuning Africa-II Project Implemented by the Tuning Academy**

*This initiative is implemented on behalf of the European and African Union Commissions by:*





## **Table of Contents**

**I—Background**

**II—Introduction**

**III—What is Tuning?**

**IV—Credit System: The Concept**

**V—Workload: The Concept and the Trend**

**VI—The Rationale for a Credit System**

**VII—Global Perspectives**

**VIII—African Higher Education System**

**IX—Workload in Africa: Highlights of a Study**

**X—Conclusion**

**XI—Recommendation**

**XII—References**



## I—Background

The vision of African Union, to build an integrated continent, requires a harmonised education system, where intra-Africa mobility and skills portability are key elements in its realization. Harmonized education and training systems are essential for effective implementation of the Continental Education Strategy for Africa (CESA) and Agenda 2063. Harmonisation is an instrument for enabling African higher education to contribute to and be aligned with the African vision of integration. The African Union Commission therefore developed a framework for harmonisation of higher education in Africa to facilitate the mutual recognition of academic qualifications.

There are increasing efforts “in Africa toward “harmonisation of higher education” since the diverse systems of higher education have resulted in the lack of recognition of university degrees constraining academic integration and the mobility of students across the continent. The implementation of the Harmonisation Strategy involves, among others, designing common curriculum development frameworks to enable comparability and equivalence of learning outcomes in African universities.

Within the framework of the AU Strategy for Harmonisation of Higher Education a project—on harmonisation of curriculum development in African universities using the “Tuning” methodology—was launched in collaboration with the European Commission. One of the activities in the initiative is the drafting of a Proposal for a Credit System for Africa to further advance student mobility and contribute to harmonization process.

It is imperative to develop a common measure of student workload in terms of credit hours so that it is possible to harmonize the range of credits and compare programmes in different countries. A vital instrument to facilitate comparability of qualifications is the development of an agreed credit transfer system. Study programmes and periods of learning will be more comparable and compatible by making use of credit transfer system. A common credit transfer system that can be recognized and transferred at national, regional, and continental levels is paramount in advancing the harmonization of the higher education systems in Africa.

## II—Introduction

In the last decade, higher education has witnessed unprecedented growth globally. Africa stands as one of the regions which has entertained massive expansion and development—with all indications that this will continue unabated in light of the anticipated youth bulge in the continent for several decades.

This phenomenon is taking place at an opportune time when key development players, policy makers, and relevant organisations—from the African Union (AU) to the African Development Bank (AfDB), from the World Bank to the Organisation for Economic Cooperation and Development (OECD), and from the Association of African Universities (AAU) to the Association for the Development of Education in Africa (ADEA)—all concur that higher education must be centrally placed in the strategic development plan of African nations for a meaningful and sustainable economic development to take effect (Teferra, 2014). Higher education is now undisputedly established as “core” (AU, 2006), “critical” (OECD, 2010),



“central” (AfDB, 2008), “key” (European Commission, 2014), and “unambiguous” (World Bank, 2008) to national development and global competitiveness thereby enormously catapulting its role.

As succinctly articulated in CESA 2016-25, virtually all development players now concur that for any meaningful and sustainable economic growth to be realized and sustained, tertiary education must be centrally placed in the development agenda of nations. Building a tertiary education system is no more a luxury African countries were once chastised for indulging in it; but a critical imperative for national development and global competitiveness (AUC, 2016).

STISA-2024 (AUC, 2014), another parallel strategy of the African Union Commission, affirms that higher education provides a conducive environment for the development and full exploitation of the potential of science, technology and innovation to promote sustainable growth and socio-economic development. It further underscores its capacity to improve global competitiveness to research, innovation and entrepreneurship that entail quality knowledge production in African universities.

Agenda 2063 (AU, 2014), the blueprint for Africa’s development agenda unequivocally state the need to,

Build and expand an African knowledge society through transformation and investments in universities, science, technology, research and innovation; and through the harmonization of education standards and mutual recognition of academic and professional [sic] qualifications.

In the current era of the knowledge economy, the key role of higher education could be expressed in a number of ways. Higher education enables graduates to effectively use new technologies—and develop new tools and skills as well as promote job creation and entrepreneurship. By producing well-trained teachers, it can enhance the quality of primary and secondary education systems; by training physicians and other health workers, it can improve a society’s health thereby, raising productivity at work; by nurturing governance and leadership skills, it can provide countries with the talented individuals needed to establish a policy environment favourable to socio-economic growth. Setting up robust and fair legal and political institutions, making them part of a country’s fabric, and developing a culture that encourages the creation of new businesses and jobs, for example, call for advanced knowledge and decision-making skills. Addressing environmental problems and improving security against internal and external threats also place a premium on the skills that advanced education is best positioned to deliver (Bloom, Canning, Chan, & Luca, 2013).

African higher education has recorded unparalleled expansion in the last decade with enormous implications for the sector in particular and social and economic development of the region as a whole. This unprecedented development, needless to say, carries a solid promise in situating Africa as a significant, even critical player, in the global knowledge society if expansion is concurrently augmented with quality—a key issue Africa is grappling with to address it at multiple fronts.

In undertaking its Agenda 2063 and the Continental Education Strategy for Africa 2016-25, the African Union Commission, in cooperation with a number of bilateral and multi-lateral players has initiated several endeavors to promote quality higher education in the continent.



Among others, the Commission closely works with European Union Commission, its counterpart, among others in harmonizing the higher education systems in Africa.

The harmonization of higher education in Africa is a multidimensional process that promotes the integration of the higher education space in the region. This objective is to achieve collaboration across borders, sub-regionally and regionally, in curriculum development, educational standards and quality assurance, joint structural convergence, consistency of systems as well as compatibility, recognition and transferability of degrees to facilitate mobility. The African Union Commission promotes the harmonization of African higher education to integrate the region. The European Commission supports these efforts through the Africa-EU Strategic Partnership including the Africa-EU Migration, Mobility and Employment Partnership and the Joint Africa-EU Strategy Action Plan. Various initiatives to foster harmonization have been launched in the last three decades (Teferra and Hahn, 2012).

One such initiative to harmonize the continent's higher education system is a Tuning Africa Project which has been running for over half-a-decade now. The Project, now in its second phase, is undertaking to propose a common credit system for the continent, as one of the key endeavors in advancing the harmonization of the higher education systems in Africa. This effort comes on the heels of existing and emerging similar continental and sub-continental efforts as pursued by Association of African Universities, Conseil Africain et Conseil Africain et Malgache pour l'Enseignement Supérieur (African and Malagasy Council on Higher Education (CAMES), Inter-University Council for East Africa (IUCEA), and the key initiative the Addis Ababa Convention (further elaborated later), among others. This current effort intends to draw from these experiences in building the continental wide credit system.

### III—What is Tuning?

Tuning higher education started in 2000 in Europe as a project to link the political objectives of the Bologna Process strategically and at a later stage the Lisbon Strategy to the higher education sector. Overtime, Tuning has developed into a process and an approach to (re-) design, develop, implement, evaluate and enhance quality for degree programmes and has expanded around the world.

Tuning is a methodology to improve teaching, learning and assessment in higher education reform. It guides the development of curriculum, a credit accumulation mechanism, and transfer system so as to obtain intended learning outcomes, skills and competences. One of its objectives is to ensure consensus of academics across borders on a set of reference points for generic and subject-specific competences alongside subject lines (Teferra and Hahn, 2012).

The name Tuning was considered to reflect the idea that universities do not and should not look for uniformity in their degree programmes or any sort of unified, prescriptive or definitive European curricula but simply look for points of reference, convergence and common understanding. The protection of the rich diversity of European education has been paramount in Tuning and in no way seeks to restrict the independence of academic and subject specialists, or undermine local or national authorities.

Whereas educational systems are primarily the responsibility of governments, educational structures and content remain within the purview of higher education institutions





and their academic staff. Tuning focuses not on educational systems, but on educational structures with emphasis on the subject area level, that is the content of studies.

As a result of the Bologna Process, the educational systems in all European countries have been vigorously reforming and harmonizing. This is the direct effect of the political decision to converge the different national systems in Europe with requisite academic and professional profiles reflecting and anticipating the needs of society. For higher education institutions, these reforms have been instrumental for initiating intensive dialogue including the comparability of curricula in terms of structures, programmes and actual teaching, as well as credit systems. For more information please visit <http://www.tuningacademy.org>.

#### IV—Credit System: The Concept

The concept of credit system appeared in the United States at the end of the 19<sup>th</sup> century. In 1872, Harvard University replaced the system of the classical fixed curriculum with an increasingly wide choice of courses for students. Starting with electives only for senior students by 1884, the university offered almost complete freedom of choice to all students and shifted in the 1890s to measuring progress towards a degree on the basis of the accumulation of individual courses rather than completing a total course of study. Other universities and colleges quickly followed the Harvard model. The credit system thus emerged as a result of electives.

Towards the end of the 19<sup>th</sup> century and into the early 20<sup>th</sup> century, it became increasingly common for colleges and universities to list the number of credits offered for each course in their catalogues; the number being determined by the hours of classroom and laboratory work devoted to the course per week. Degree requirements were stated in terms of numbers of required credits as well as in course distribution. Also in the early 1900s, the credit system extended beyond undergraduate study to include postgraduate programmes.

The system in the United States remains to be based on a fixed number of teaching hours per unit which, in principle, doesn't cover thesis or work placements, among others. It is based on a teacher-driven concept used to organize the loads of a teacher. College students generally receive credit hours based on the number of "contact hours" per week in class, for one term. Credit system was not designed for covering contemporary educational discourses and pedagogical approaches such as experiential learning, problem based learning, and so on. Though critiqued for being rigid, this system continues to be used in North America and also in large parts of Asia.

Nowadays, the definition of credits in higher education systems may be based on different parameters, such as contact hours, student workload and learning outcomes.

#### V—Workload: The Concept and the Trend

The workload based system was initiated in Northern part of Europe in the second half of the 1970s. It further became popular with the emergence of theories such as student-centered learning, active learning, participatory learning, and experiential learning, on the accounts of theorists such as John Dewey, Jean Piaget, Carl Rogers, and Lev Vygotsky. This system takes into account hours of not simply classroom activities, laboratories, workshops, and internships, among others, but also time spent for independent and group studies associated with these activities.





At the end of the 1980s, and at the birth of the Erasmus programme, the European Credit Transfer and Accumulation System (ECTS) initiative was introduced to facilitate the mobility of students and recognition of their credentials. It is a student-centred system based on the student workload required to achieve the objectives of a programme of study. A workload is a key element of the learning-outcomes based educational system.

ECTS was taken on board by the Bologna Process in 1999 (and included in the Bologna declaration) and it became the cornerstone of the student centred/ active learning approach. It is now the formal system of 48 signatory countries<sup>4</sup> of the Bologna Process, including the European Union and Russia. Recently, it was introduced to the Central Asian Countries. In Latin America the same approach was introduced to improve quality on the design and delivery of degree programmes. The Latin American Reference Credit (CLAR) system is a result of internal discussions and decisions of the region's 18 Ministries of Higher Education which have adapted the system to their needs.

Thus, this approach seems to be part of an emerging global trend. In Asian region, a comparative initiative has been taken for mobility and credit transfer purposes. China has also expressed interest to develop a workload based/learning based system. For more comparative perspectives on this and credit system later.

In Africa, the Tuning Methodology has been employed to contribute to the key features of the African Higher Education Harmonization Strategy, following the launch of the Tuning Africa Project in 2010 as an African Union and European Union partnership initiative. This project, which is in its second phase now, has several layers of bodies with clearly identified roles.

The Tuning Africa Policy Advisory Group (TAPAG)—a collective of national, subregional and continental bodies involved in higher education and established by Tuning Africa Project II—is one of them. As part of its remit, TAPAG extensively interrogated the two concepts, i.e., credit and workload, at its last meeting in November 2016 in Accra, Ghana.

TAPAG defined credit as a measure of workload required for a typical learner to achieve the objectives of a programme, specified in terms of the predetermined learning outcomes and competences that is expected to be acquired. A credit thus measures student workload required to achieve expected learning outcomes.

Workload, according to TAPAG, is an estimated account of the learning activities such as lectures, seminars, projects, practical activities, work placements, individual studies all measured in time, which a learner typically needs to achieve the defined learning outcomes.

These two definitions might be the pillars of an African Credit System.

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<sup>4</sup> 48 Signatories of the Bologna Accord of the European Higher Education Area include Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kazakhstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, and Vatican City.



## VI—The Rationale for a Credit System

The importance of a common credit system for internationalization of higher education was understood early in the 1990s, as for example reflected in the UNESCO World Declaration on Higher Education for the Twenty-First Century: Vision and Action (October 1998<sup>5</sup>). A common credit system is key for harmonizing different higher education systems—characteristic of the African continent—and central to the African Union’s Agenda 2063 which explicitly states the critical need for harmonization of education standards and mutual recognition of academic and professional qualifications in the continent. This was further pronounced in CESA 2016-25 which affirms that “Harmonized education and training systems are essential for the realization of intra-Africa mobility and academic integration through regional cooperation”.

A credit system is a key instrument for the accumulation and transfer of knowledge, skills and (wider) competences expressed and measured in terms of student workload and learning outcomes. The objectives and importance of a credit system in the higher education sector are intended to

- i. Promote student mobility
- ii. Improve the comparability and compatibility of study programmes
- iii. Render more transparency to study programmes
- iv. Provide more flexibility and diversity of pathways
- v. Facilitate easier development of well-balanced programmes
- vi. Promote feasibility of programmes
- vii. Enhance quality of programmes
- viii. Advance recognition of (periods of) studies taken elsewhere successfully
- ix. Facilitate different types of learning such as informal, non-formal, formal, part-time, among others.
- x. Facilitate more substantive collaboration among different higher learning and research institutions towards a common higher education space.

For continents and sub-continents with a desire to harmonize their higher education systems and those with interest in articulating and building a common area of higher education, developing a common credit transfer system continues to be of utmost importance. The next section provides a global perspective of different credit systems, including trends in Africa (a dedicated section at the bottom), to help draw experience in the interest of building a robust one for the continent.

## VII—Global Perspectives

### 1. United States<sup>6</sup>

Two major credit systems exist in the United States, including a few local ones in certain higher education institutions. The two major credit systems are the semester-hours of credit and the quarter hours of credit as illustrated in Table 1.

<sup>5</sup> [http://www.unesco.org/education/educprog/wche/declaration\\_eng.htm#world%20declaration](http://www.unesco.org/education/educprog/wche/declaration_eng.htm#world%20declaration)

<sup>6</sup> Ulicna, Daniela (2011) Study on the use of credit systems in higher education cooperation between the EU and the US.  
[http://ec.europa.eu/dgs/education\\_culture/repository/education/library/study/2011/us\\_en.pdf](http://ec.europa.eu/dgs/education_culture/repository/education/library/study/2011/us_en.pdf)



The “semester hours of credit” system is the most commonly used in the United States. Overall, the US credit systems are rather tightly related to the education and training programmes and instruction hours. In the US, the credit system is based on how the inputs are organized; and thus the weight of credit points is based wholly on the inputs.

**Table 1: Credit System in the United States**

Name	Terms per academic year	Duration in weeks	Total credits for the period	Total credits per academic year (undergraduate level)	Total credits for a bachelors degree
<b>Semester hours of credit</b>	2 semesters	15	15	30 (15 credits x 2 semesters)	120 (15 credits x 8 semesters)
		16	16	32 (16 credits x 2 semesters)	128 (16 credits x 8 semesters)
<b>Quarter hours of credit</b>	3 quarters	10	15	45 (15 credits x 3 quarters)	180 (15 credits x 12 quarters)
		11	16	48 (16 credits x 3 quarters)	192 (16 credits x 12 quarters)

## 2. Europe

European Credit Transfer System (ECTS)<sup>7</sup> is a learner-centred system for credit accumulation and transfer, based on the principle of transparency of the learning, teaching and assessment processes. Its objective is to facilitate the planning, delivery and evaluation of study programmes and student mobility by recognising learning achievements and qualifications and periods of learning.

ECTS was first developed as an instrument to support credit transfer between higher education institutions in the framework of student mobility organised under the Erasmus programme. At that time, it was predominantly based on teaching inputs. It has progressively evolved into a system used for both credit accumulation and credit transfer in the framework of transnational mobility but also for mobility within a country or within a single institution.

The main goal behind the development of ECTS was to enable the recognition of studies abroad. When ECTS was first introduced in Europe in the 1980s, the procedures for recognition of foreign studies were rather rigid and based on a detailed comparison of curricula. Furthermore, it was quite common that higher education systems were based on the use of contact hours, however these lacked a good account of the work a student was expected to do during his/her studies. The work that students were expected to do autonomously through independent studies, project work, or periods of practical training were not accounted for. Another reason why a system based only on contact hours was considered inappropriate was the diversity of higher education structures, approaches and traditions across Europe. Higher education institutions in Europe combine different learning activities to develop programmes,

<sup>7</sup> ECTS’s User Guide 2015  
[http://ec.europa.eu/dgs/education\\_culture/repository/education/library/publications/2015/ects-users-guide\\_en.pdf](http://ec.europa.eu/dgs/education_culture/repository/education/library/publications/2015/ects-users-guide_en.pdf)



but the proportion of classroom teaching, practical work, autonomous work, project work, and so on, varies greatly.

While different learning activities can lead to similar outcomes in terms of students' knowledge and competences, some are more intensive in contact hours than others. Consequently, it was considered that a system based on contact hours would not give a sufficient account of the equivalence between courses, even though the expected learning outcomes were equivalent. As a result, ECTS was progressively redefined to strengthen the core role of two main concepts:

- i. The concept of learning outcomes: the award of credit signals that the learner has achieved the expected learning outcomes independent of the inputs that s/he has been through;
- ii. The concept of workload which embraces all learning activities that a person is typically expected to complete in order to achieve the expected learning outcomes.

Each programme component (unit, module, course, etc.) is defined in terms of learning outcomes which set out what a learner is expected to know, understand and be able to do upon the completion of the programme component. Based on the definition of the learning outcomes, the higher education staff identifies the typical student workload needed to achieve these learning outcomes. Calculation of student workload covers all learning activities including the teaching hours, independent work, practical assignments, among others. In ECTS, 60 credits are allocated to a full time year of formal learning. One credit is typically between 25 and 30 hours of workload.

The major conceptual or structural differences between the use of credit in the US and ECTS in EU are:

- i. The use of learning outcomes to describe and define the content of programme components when using ECTS, while in the US components are generally described through curricula/teaching inputs;
- ii. The use of contact hours as a basis for calculating credit value in the US while in ECTS student workload covering a full range of learning activities is expected to be used; and
- iii. Standardised approach to describing the level of programmes' components/courses in the US, while in Europe there is no common approach to describe the level of courses other than designating them as either Bachelors or Masters.

### 3. United Kingdom<sup>8</sup>

Credit Accumulation and Transfer Scheme (CATS) is used by many universities in the United Kingdom to monitor, record and reward passage through a modular degree course and to facilitate movement between courses and institutions. One credit is equivalent to 10 notional hours of study (contact time and allocation for self-study). For example, a university course of

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<sup>8</sup> Souto-Otero, Manuel (2013) Review of credit accumulation and transfer policy and practice in UK higher education, University of Bath.  
[https://www.heacademy.ac.uk/system/files/resources/review\\_of\\_transfer\\_of\\_credit\\_report.pdf](https://www.heacademy.ac.uk/system/files/resources/review_of_transfer_of_credit_report.pdf)



150 estimated study hours would be worth 15 credits, and a university course of 300 estimated study hours would be worth 30 credits. A full academic year is worth 120 credits.

CATS schemes use in the UK include CATS (England & Northern Ireland), SCOTCAT (Scotland), the Credit and Qualifications Framework for Wales (Wales), the Learning and Skills Development Agency credit framework and Open College Network credits. There is an official equivalence with ECTS: two UK credits equal to one ECTS credit. Thus, in the UK 120 credits constitute one academic year while it is 60 for ECTS.

#### 4. Latin American<sup>9</sup> Reference Credit (CLAR)<sup>10</sup>

The Latin American Reference Credit (CLAR) has been devised as a unit of value for calculating a workload, measured in hours, required to be carried by a student in order to attain learning outcomes and pass a subject or teaching period.

From a complementary standpoint, CLAR represents a system that displays the relative complexity of the different curricular components and facilitates the assessment and comparison of learning results within different contexts of qualifications, degree programmes and learning environments. It provides a shared method for the purpose of comparing learning between the different degree programmes, sectors, regions and countries.

CLAR recognizes an annual full-time student workload to be equivalent to 60 credits. Use of this normalizer was approved at Tuning Latin America Project in 2011, taking into account:

- i. its divisibility, which enables it to be easily adapted to diverse ways of structuring the academic year (six, four and three-month periods and modules);
- ii. its wide use in other parts of the world, which would thus facilitate its understanding and compatibility.

If as a general rule, one (academic) year of full-time study is equivalent to 60 credits, then one semester will be equivalent to 30 credits. Thus, in accordance with existing degree courses and programmes in different countries, a four-year, five-year and seven-year programmes would be equivalent to 240, 300, and 420 credits respectively. The workload assigned to a CLAR credit is defined by a record of the total amount of time a student sets aside to learning on an annual basis—and thus has no single value.

#### 5. Asia (ASEAN)<sup>11</sup>

Credit transfer systems designed to be used specifically among universities in Association of South East Asian Nations (ASEAN) member states is a fairly recent phenomenon. Traditionally, recognition of periods of studies abroad involving the ASEAN region has been carried out on case-by-case basis. Although no global credit transfer system for the ASEAN region currently exists, certain systems are used to help streamline the process.

<sup>9</sup> 18 Latin American countries involved in CLAR include Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, México, Nicaragua, Panamá, Paraguay, Perú, Uruguay and Venezuela.

<sup>10</sup> CLAR (2013)

<sup>11</sup> Mapping student mobility and Credit Transfer Systems in ASEAN region (2016).



Three major credit transfer systems are in use in the region: the AUN ASEAN Credit Transfer System (AUN-ACTS), the University Mobility in Asia and the Pacific Credit Transfer Scheme (UMAP-UCTS), and the SEAMEO-RIHED Academic Credit Transfer Framework (AIMS). Of these the AUN-ACTS is the only credit system exclusive to intra-ASEAN mobility. These systems have been created to meet a variety of interests and motivations.

**Table 2: Comparisons between Different Credit Systems in Asia**

	AIMS	UCTS	ACTS
Countries involved	UCTS participating countries	Australia, Brunei, Cambodia, Fiji, Guam, Hong Kong, Indonesia, Japan, Republic of Korea, Laos, Macau, Malaysia, Mongolia, Myanmar, New Zealand, Papua New Guinea, Philippines, Samoa, Singapore, Taiwan, Thailand, Timor-Leste, Vietnam	ASEAN + partners: Brunei Darussalam, Cambodia, Indonesia, Japan, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam
Credit definition	1 academic year = 30 to 35 credits	1 academic year = 60 credits	1 academic year = 60 credits
Student workload per year	1800–2100 hours	1800 hours	1500–1800 hours
Student workload per credit	38–48 hours (includes 13–16 academic hours of instruction)	30 hours of work	25–30 hours of student workload

## 6. Russia<sup>12</sup>

The introduction of “credit units”, зачетный единиц / *zachetnaja edinitisa* in Russian, is a result of Russia’s participation in the Bologna process, which requires the use of credits that are compatible with ECTS. The development of a credit system in Russian higher education was first approved in 2002. The new credit unit is defined as representing 36 academic hours per credit whereby an academic hour in Russia is equal to 45 minutes.

A full-time year consists of 60 credits, making the Russian system compatible with the ECTS credit system. A four-year bachelors requires 240 credits while a five-year one requires 300 credits. A two-year masters programme, which follows the bachelors, requires 120 credits. The credit system is not applicable for the research-based degrees: the Candidate of Sciences and Doctor of Sciences.

## 7. Summary: General Aspects

The majority of the systems discussed above have undertaken research on the number of hours that are necessary to achieve learning outcomes. Different types of interrelated elements that

<sup>12</sup> Ann M. Koenig (2013) Latest Russian higher education curriculum standards mandate use of “credit units” in AACRAO International Education Services  
<http://www.aacrao.org/resources/resources-detail-view/latest-russian-higher-education-curriculum-standards-mandate-use-of--credit-units->





influence “productivity”—i.e. the time to obtain the required level of learning by a student—could be identified. These include:

- i. Diversity of traditions
- ii. Curriculum design and context
- iii. Coherence of curriculum
- iv. Teaching and learning methods
- v. Methods of assessment and performance
- vi. Organization of teaching and learning
- vii. Ability and diligence of the student
- viii. Personal and material means available

## VIII—African Higher Education System

### 1. Introduction

One of the challenges facing African higher education system is the difficulty in transferring part or whole of a study from one region to another or from one institution to another. This is due to lack of reliable tools for measuring student achievements in a transparent way as well as the absence of defined systems which allow adequate recognition of degrees and other credentials among institutions and between countries.

The concept of “credit” refers to the amount of learning contained in a qualification or part-qualification (SAQA, 2014). In the Bologna system, credits reflect the total workload required to achieve the objectives of a programme—objectives which are specified in terms of the learning outcomes and competences to be acquired—and not just through lecture hours. It makes study programmes easy to read and compare for all students, local and foreign, and therefore facilitates mobility and academic recognition (Khelifaoui, 2009). Little information is available on how a period of study is recognized—both among universities and between countries in Africa.

In Africa, there is no common and reliable means of measuring and transferring acquired knowledge. In some countries, the concept of credit has limited understanding and a variety of meanings and different applications. There is thus a compelling need to understand and recognize the different types of credits systems that are being used in different parts of Africa and hence this endeavor to establish one.

A study was carried out to investigate the different types of credit systems that exist in African countries. It is anticipated that this endeavor will contribute to the realization of transferability of studies in the continent possible by promoting comparability of degrees, diplomas and certificates. The contribution of a streamlined continental credit system—for the development of the African higher education space in particular the integration of the continent in general—is paramount.

### 2. Methodology

*This initiative is implemented on behalf of the European and African Union Commissions by:*







This study was carried out through a questionnaire survey distributed to country participants in the Tuning Africa Phase II programme. Country participants with an average of four institutional membership in each country were requested to complete questionnaires. Responses were received from 35 African countries, as indicated in Table 3.

After the surveys were completed, they were subjected to verification by respective regulatory agencies or ministry officials in their countries (where the former does not exist). The analysis of the various country reports constitutes the focus of this section.

### 3. Results

#### 3.1 Status of Regulatory Agencies in African Countries

Among the 35 countries covered in this survey, 25 of them have national regulatory agencies. Three of the five countries in North Africa in this study have national regulatory agencies. All the countries in North Africa under this study are committed to the Licentiate-Masters-Doctorate (LMD) reforms.

**Table 3: Status of National Regulatory Agencies in the Countries under Study**

Region	Countries covered by the study	Countries with established quality assurance regulatory agencies
Northern	Algeria, Egypt, Libya, Mauritania, Morocco, Tunisia	Egypt, Libya, Tunisia
Southern	Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zimbabwe	Botswana, Lesotho, Mozambique, Namibia, South Africa, Zimbabwe
East	Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Madagascar, Mauritius, Somalia, Sudan, Tanzania, Uganda	Burundi, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, Uganda
West	Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Mali, Nigeria, Senegal	Conseil Africain et Malgache pour l'Enseignement Supérieur (CAMES) for Benin, Burkina Faso, Cote d'Ivoire, Mali, Senegal. Regulatory agencies in Cape Verde, Mali, Nigeria
Central	Cameroon, Democratic Republic of Congo (DRC)	Cameroon
<b>Total</b>		<b>35</b>

In Southern Africa, there are well established quality assurance regulatory agencies in Botswana, Lesotho, Mozambique, Namibia, South Africa and Zimbabwe. The ministries of education currently carry out regulatory functions for higher education in Angola, Madagascar, Malawi and Mauritius. All the Southern African countries under this study, except Angola, have credit systems.



In East Africa, Djibouti and Somalia have no national quality assurance regulatory agencies, while Burundi, Eritrea, Ethiopia, Kenya, Rwanda, Tanzania and Uganda have well established national quality assurance agencies.

In West Africa, the Ministry of Education and Conseil Africain et Malgache pour l'Enseignement Supérieur (CAMES) provide regulatory functions for higher education institutions in the French speaking countries of Benin, Burkina Faso, Cote-d'Ivoire, Guinea, Mali, Niger, Senegal, and Togo. Although Guinea Bissau is a Portuguese speaking country, it has also subjected itself to the regulatory activities of CAMES. As expected in existing regional protocols such as CAMES and the ECOWAS Convention on the recognition and Equivalences of Education, some Member States (Cape Verde, Ghana, Mali, Nigeria, Senegal and Sierra Leone) have established national regulatory agencies.

Only three countries were covered in Central Africa under this study. Higher education regulations in Cameroon is under the CAMES system, while that of the Democratic Republic of Congo is under the control of the Ministry of Education. The number of countries with national higher education regulatory agencies has increased since the report produced by Materu (2006) on the same subject.

### *3.2 The Prevalence of a Credit System*

In North Africa, all the countries in this study are committed to the LMD system; and credit systems operate in their higher education institutions. However, not all the universities in the five countries employ a credit system. Some universities are still using the old British system.

In Southern Africa, only Angola lacks a credit system. All the other eight countries have one form of credit system or another. All universities in Madagascar, Mauritius, Namibia and South Africa maintain a credit system. As in the case of the North African countries, not all universities in Botswana, Lesotho, Malawi, Mozambique and Swaziland currently operate a credit system. In Zimbabwe, 15 universities have committed to change from Course Unit System to Credit System.

In East Africa, a credit system started with Kenya in 1968; and in 2012, Burundi became the latest country to adopt the system. It is only in Somalia that a credit system does not exist in east Africa. Some of the countries, such as Djibouti, have not been able to apply a credit system to their medical programmes.

In West Africa, a credit system started in Nigeria in 1968 and developed widely between 2008 and 2010 in other countries. Some programmes in medicine are exempted from the credit system.

In Central Africa, a credit system started in Cameroon in 2007 and most universities there operate the LMD. Not all universities in the Democratic Republic of Congo (DRC) operate a credit system though LMD is at a pilot phase at the University of Lubumbashi.

There are various publications in the different regions on their operations of a credit system. Countries where these publications have been produced include Algeria, Cameroon, Madagascar, Mozambique, Nigeria, South Africa, and other countries under the purview of CAMES protocol.



### 3.3 Measuring Credit

Generally, the process of accreditation includes peer reviews, site visits and a report to establish quality, capacity, outcomes and need for improvement.

In North Africa, credit is measured in terms of the teacher contact hours with the learners. In some cases, both the staff contact hours and the time taken for the students to carry out independent studies are taken into consideration. Tunisia is an exception.

In Southern Africa, most of the countries use notional hours including contact time, structured learning, workplace learning, assessment and self-study. (One credit amounts to 10 notional hours.) However, in Mauritius, a credit is based on staff contact hours where one credit unit is equivalent to one hour lecture or three hours of practical or one hour of tutorial that spans over 15 weeks.

In many countries in East Africa, contact hours and independent work of students are employed in determining credit. However, in Ethiopia and Djibouti, contact hours are employed for measuring credit.

In West Africa, credit is measured using the staff contact hours only. In Nigeria, one credit unit means a course work of one hour lecture or three hours of practical or one hour of tutorial, over a 15-week semester term.

Similarly, contact hours are used to measure credit in Central Africa. There are few universities which are using both contact hours and students learning hours in the calculation of credits.

### 3.4 Value of Credits in Different Levels

A credit does not have the same value in the countries and regions studied, as shown in Table 4. One credit load is made up of 20 to 25 hours of teaching and learning hours. In some other cases, it is one hour of teaching over a period of 15 to 16 hours, or practical classes of two to three hours over a semester made up of 15 to 16 weeks.

**Table 4: Values of One Unit in Different Regions**

Credit system	Value of one credit unit course	Region where applicable
<b>Contact hours teacher's workload</b>	1 hour of lecture over 15 weeks	Northern Africa, Western Africa
	2 hours of practical over 15 weeks	Northern Africa
	20-25 teaching and learning hours	Northern Africa
	3 hours of practical for 15 weeks	Western Africa
	1 hour of tutorials for 15 weeks	Western Africa, Northern Africa
	10 hours of notional hours made up of contact time, structured learning, workplace learning, assessment, and self-study	Southern Africa, Eastern Africa
	15-18 hours of notional hours made up of	Eastern Africa



<b>Learners' centred</b>	contact time, structured learning, workplace learning, assessment, and self-study	
	15 hours of lectures and 10 hours of independent work	Eastern Africa

In Eastern and Central Africa, contact hours and independent work of students are employed in determining the value of credits. Accordingly, one unit is equivalent to 10 notional hours; one credit is equivalent to 15 to 18 contact hours or students workload; and one unit is equivalent to 15 hours of lectures and 10 hours of independent work.

In many countries in West Africa, contact hours are used in determining credits. Accordingly, one credit is equivalent to one contact hour or three hours of practical or one hour of tutorial per week for 15 weeks. The credit load per year varies from institution to institution and from country to country, as shown in Table 5.

**Table 5: Credit Load per Year**

Region	Credit Points Per Year
North	30 – 60 units
South	18 – 60 units
East	36 – 60 units
West	30 units, 48 units, 60 units
Central	36 – 60 units

The credit load for various programmes is different among the regions as shown in Table 6. However, a common credit point per year across the continent appears to be 60 units.

**Table 6: Credit Loads for Different Programmes**

Region	Bachelors	Masters	Doctorate
Northern	120–180	36 units or 130–136 units	No information provided
Southern	60, 100, 120 credits	60, 120, 180	120, 360, 480
East	In Burundi, 180 (But 420 for Medicine and 240 for Engineering) 60, 135, 120, 180 units for others	120–136, 360	
West	180–360	36–180	120
Central	108–180	120	300

**IX—Workload in Africa: Highlights of a Study**

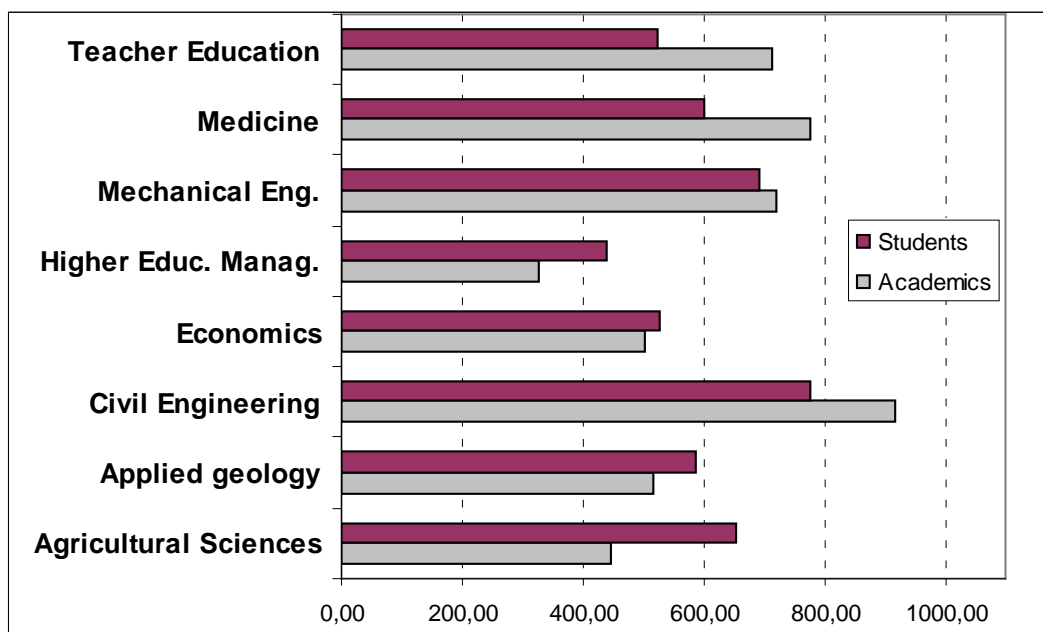
A study was undertaken to establish the scope and prevalence of workload in African higher education systems based on a survey which involved 571 academics and 5,266 students in 107 institutions which are participating in the Tuning Africa II Phase. The study explored the extent of workload to learn a unit/course/module in a semester on the basis of contact hours and independent work.



The study examined workload by field/discipline which included seven undergraduate disciplines: Agricultural sciences, Economics, Civil Engineering, Mechanical Engineering, Applied Geology, Medicine, Teacher Education, and one post-graduate programme: Higher Education Management. Except Teacher Education, a striking similarity of opinion between students and academics, as regards to contact hours vs independent work, is recorded. In a similar trend academics and students from all the five African regions—North, South, Central, East, West—have exhibited considerable congruity on the number of contact hours vs independent work to learn a unit/course/module in a semester.

Figure 1 presents the number of hours that students and academics thought it would be required to complete all the requirements of a unit/course/module in a semester, per fields/discipline, taking into account both contact hours and independent work. Civil Engineering stood highest, followed by Medicine and Teacher Education, for academics. Civil Engineering stood again the highest, followed by Teacher Education and Applied Geology, for students.

**Figure 1: Hours Needed to Complete All the Requirements of a Unit/Course/Module in a Semester per Disciplines/Field**



According to the study, the student workload over a period of a year spans from 1,350 to 1,800 hours, which TAPAG endorsed after further deliberation. This compares relatively well with Europe standing at 1,500 to 1,800 hours and Latin America at 1,440 to 1,980 hours for both contact hours and independent work.

**X—Conclusion**

African higher education has an array of schemes in credit systems, credits, and workloads without whose harmony the key mission of the continental higher education space in particular and the African Union’s vision—of an integrated, prosperous and peaceful



continent—in general may remain elusive. Hence, the need for a systematic and rigorous description and analysis of establishing common and basic, but key and critical, frameworks and pillars of the harmonization process.

Through extensive research undertakings and intensive dialogue of the TAPAG, the definition of a credit system and workload have now been established. The Group also agreed to the total number of hours of a workload per year.

From the study, the following findings can be deduced about the state of the art of credit in African higher education system.

- i. Credit system has been functional in the African Higher Education systems for many years.
- ii. African universities consider credit as a tool for measuring the load of the teacher rather than as an expression of the volume of learning based on defined learning outcomes and associated workload.
- iii. In many African institutions, credit is measured based on the contact time with the teacher.
- iv. Credit does not have the same value in all the countries and regions. (Anglophone and Francophone credit systems differ.)
- v. There is currently no credit transfer system among institutions in Africa.
- vi. The load of credit is not comparable among institutions in Africa.

## XI—Recommendation

- i. There is a compelling need to have a common agreement on the definition and value of a credit in the African higher education systems in order to promote transferability and comparability—key to harmonizing the African higher education space and promote mobility.
- ii. There is a need for consensus on the workload of a credit unit. The general trend is that 60 credits are equivalent to the workload of full-time student during one academic year. We thus recommend to adopt this widespread international trend of 60 credits for Africa.
- iii. There is a need for consensus on the number of credit units for each year and for the different programmes, i.e. Bachelors, Masters and Doctorate.
- iv. There is a need for a consensus on the student workload over a period of a year which straddles between 1,350 and 1,800 hours. We thus recommend to adopt between 1,350 and 1,800 hours of workload for Africa which sits well within the international norms.
- v. There is a need for a harmonized continental credit system that balances the different systems that span the continent: Anglophone, Francophone and Lusophone countries.
- vi. With increasing harmonization and recognition of credentials at sub-continental level within the Regional Economic Communities (RECs), as in East Africa and





West Africa (CAMES), lessons could be drawn for—and thus consolidate—the continental credit system.

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