

**MEMORANDUM OF UNDERSTANDING**

**BETWEEN**

**FACULTY OF SCIENCE, RADBOUD UNIVERSITY NIJMEGEN**

**AND**

**THE CATHOLIC UNIVERSITY COLLEGE OF GHANA, FIAPRE**

**1. Objective of the Programme**

**a. A general statement**

This Memorandum of Understanding sets forth the main elements of a Programme of cooperation between the Faculty of Science, Radboud University Nijmegen (FoS-RU) and the Catholic University College of Ghana, Fiapre (CUCG). The principal contribution of FoS-RU will be to support and strengthen the teaching and learning Programme within the Faculty of Information and Communication Sciences and Technology (ICST) of CUCG. While CUCG is the main beneficiary in the short term, the Programme provides FoS-RU with an opportunity for some instructors and students of the Institute of Computer and Information Sciences to be involved in an outreach programme that supports tertiary education in Ghana, one of the more promising countries in Africa. For historical and commercial reasons, the Dutch Government is an important partner in supporting Ghana's Development programmes. This Programme accords with the capacity building aims of both the Dutch Government and the Ghanaian Government and as such is likely to be supported by the Dutch Government, acting through the NUFFIC and the Ghanaian Ministry of Education. The FoS-RU-contribution might be carried out in collaboration with the Hogeschool Arnhem-Nijmegen (HAN; another institute for higher education, partly based in Nijmegen).

**b. The setting of the Programme**

CUCG, one of Ghana's new private Universities, received accreditation from the National Accreditation Board of Ghana's Ministry of Education in December 2002. CUCG welcomed the first group of 50 pioneer students in March 2003, a second group of 35 in November 2003 and a third group of 115 in August 2004. The enrolment for the fourth academic year which began in later August 2005, numbers 355 students, with 175 new students and with 180 continuing students. CUCG presently offers four year BA/BSc degrees in three Faculties: Information and Communication Sciences and Technology (ICST), Economics and Business Administration (EBA) and Religious Studies (RS).

### **c. Capacity building features of the Programme**

CUCG has limited resources on which to draw in these early years. For the courses that the Faculty of Information and Communication Sciences and Technology offers, there are few qualified computer scientists in Ghana available and prepared to teach them. Although the situation is improving, few students come to University having hands-on experience with computers. The main public universities face a similar situation – lack of qualified instructors, inadequate facilities and insufficient computers and equipment to meet the training needs involved in teaching a growing student body. The objective of this Programme is to assist the CUCG in addressing these needs by strengthening the training of students and by building the capacity of the University to provide adequate instruction in this area.

## **2. Components of the Proposal**

### **a. Basic elements**

The time frame for this proposed Programme of collaboration initially is for three years, from August 2006 through June 2009, with a preliminary or preparation period of one semester, from January to May, 2006. It involves two main features and includes several others that are related to and form part of an integrated Programme:

- FoS-RU support for the teaching and learning process at CUCG. FoS-RU will facilitate the participation of one or two voluntary instructors for teaching modules of two or three weeks each semester during the next three academic years (depending on additional funding by faculty and university).
- FoS-RU support for staff training. FoS-RU will provide screening of the applicants and review the educational background and skills of the present CUCG-staff and advise on necessary, supplementary conversion courses for admissibility to a FoS-RU MSc-programme. The final goal is admission to a master's programme for promising CUCG young instructors beginning in 2006 or 2007. The MSc programme in computer science takes two years. Admission of candidates will take place according to the standard FoS-RU procedure for foreign students. FoS-RU will support the availability of international scholarships.

### **b. Additional elements and areas of support**

Other elements of the collaboration Programme will include the following:

- Curricula and course development in the ICST Programme, with FoS-RU advising on the four year cycle leading to a BSc degree at CUCG;
- Teaching – learning methodology: FoS-RU will advise on the methodology employed in the teaching-learning process, with a realistic approach adapted to student background and abilities;
- Equipment and Facilities: FoS-RU will share experiences on the acquisition of support systems (both hardware and software, such as LAN and internet access) and on placing the infrastructure for a distance education programme;
- General training for computer science instructors in secondary and post-secondary institutions in Brong-Ahafo Region and Sunyani Municipality. This is foreseen as a longer term element and optional to the Programme at this time.

### **3. Means of Achieving the Objective**

#### **a. FoS-RU instructors to teach selected upper division courses at CUCG**

The recruitment of qualified and dedicated full time Ghanaian instructors is a problem that is not easily resolved in the short term. Presently the ICST Faculty has, in addition to the Acting Dean (MSc I.T.), one full-time lecturer (MSc), three full-time teaching assistants (BSc), and nine part-time instructors. Most instructors are part time and come from the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi, a two hour drive from Sunyani. Most of them were trained several years ago when Computer Science was in its infancy.

CUCG will benefit greatly if instructors from FoS-RU will teach some of the modules that are offered to students in the third and fourth year and dialogue with and advise the teaching staff of the CUCG Faculty.

FoS-RU instructors eventually might also assist CUCG instructors in developing 'in-house' courses which can be placed on the LAN for access by students. Sharing experiences with web-support for FoS-RU-courses could be an important step in the development of the skills that are essential for a future distance education programme.

#### **b. Staff development and training**

Over the longer period, CUCG will benefit greatly from an active staff development or training programme. Among the teaching assistants and lecturers engaged by the Faculty, some show considerable promise and are prepared to commit themselves to remain with the University for a longer period. In 2006, the pioneer group of students will complete their BSc degrees. Among them are some whom the University intends to invite to remain with the Faculty as tutors/teaching assistants. After a trial period of two or three years, CUCG/ICST might encourage the more promising ones to study for an MSc in Computer Science, with the commitment to return to the University and the Faculty. The NUFFIC "NFP - fellowships for master's degree programmes" offer possibilities to realize this aspect.

Under the terms of this Programme of collaboration, FoS-RU would assist in developing a staff training programme. FoS-RU will contact NUFFIC to present their master's degree programme for incorporation in the "NFP - fellowships for master's degree programmes". In this way FoS-RU will offer indirectly tuition scholarships for candidates to pursue a two year MSc programme, beginning in 2006 and continuing initially for three years (four students), with an evaluation of the Programme after each year. The FoS-RU Institute for Computer and Information Sciences and its Examination Board will participate in the screening of these candidates, following the FoS-RU evaluation of the CUCG programme and establishing that the proposed candidates have the qualifications and abilities to be admitted to and successfully complete the RU MSc Degree programme.

#### **c. Curricula and courses**

The CUCG/ICST has taken important steps to improve the curricula and the course structure in an integrated approach to the four year programme at CUCG. A Panel of Experts appointed by the National Accreditation Board of the Ministry of Education (Ghana) has reviewed and endorsed these changes, especially the introduction of computer science courses in the first year. The results already are evident in the progress shown by students in the second and third years. At the same time, the development of the curricula is a dynamic and

ongoing process, given the rapid changes that are occurring in information and communication sciences and technology. Instructors of the FoS-RU Dept of Computer and Information Sciences will collaborate with CUCG in the ongoing review and revision of the curricula and the course content of CUCG's ICST Programme.

#### **d. Appointment of a Steering Committee to guide and adapt programme**

A Steering Committee composed of the Dean/Director of the ICST/Computer Science Faculties of both FoS-RU and CUCG (or a member appointed by the Deans) and a senior member of both Faculties will coordinate and evaluate the programme and recommend and agree on any changes. The changes will be approved by the Faculty/University, in accord with their statutes and normal procedures.

Ongoing evaluation is foreseen as an important element of the Programme. The Steering Committee will conduct an evaluation of the programme each year and make such recommendations for strengthening and/or modifying the programme as seem warranted.

#### **e. Calendar of implementation**

##### **i. Preparation:**

- September – November 2005. Agree on elements of programme of collaboration and sign letter of intent by mid December 2005
- January – April 2006. FoS-RU provide support for instruction of one or two modules and determine with CUCG/ICST specifics of Programme for the coming three years, August 2006 – May - 2009
- before 31 May 2006:
  - establish a Steering Committee with specified terms of reference;
  - Steering Committee will review collaboration programme and agree on suggestions for modification and improvement;
  - Steering Committee will specify modules to be taught by FoS-RU instructors for the next academic year and calendar their presence in Sunyani.

##### **ii. Implementation: (three Academic Years: 2006/07 to 2008/09)**

###### **1) Academic Year 2006/07 (Year 1 of three years):**

- before 31 May 2006, the Steering Committee will agree on modules to be taught by FoS-RU instructors during the First Academic Year and schedule the time of their presence in Sunyani; and
- before end of the first year, i.e., by 31 May 2007, Steering Committee will review collaboration programme and agree on modifications and improvements to be introduced in the Second Year;

###### **2) Academic Year 2007/08 (Year 2 of three years):**

- before end of the second year, i.e., by 31 May 2008, Steering Committee will agree on modules to be taught by FoS-RU instructors and schedule the time of their presence in Sunyani for third year;
- before 31 May 2008, Steering Committee will review collaboration programme and agree on suggestions for modification and improvement; and
- before 31 May 2008, agree on continuation or termination of the programme.

3) Academic Year 2008/09 (Year 3 of three years).

- before 31 December 2008, Steering Committee will have reviewed the three year programme and recommend that it be terminated or continued at the end of the third year, i.e., May 2009;
- if to be continued, before the end of the third year, i.e., by 31 May 2009, the Steering Committee will agree on
  - modules to be taught by FoS-RU and the time of their presence; and
  - recommendations for changes in the CUCG/ICST programme.

iii. Staff Development Programme (three years; Sept 2006 – August 2009)

- January 2006. Out of the junior staff of CUCG some candidates to follow a master's degree programme at FoS-RU are proposed to FoS-RU. Candidates will be brought into contact with visiting FoS-RU lecturers. The FoS-RU Examination Board will analyze their academic curricula and decide about their admittance.
- Sept 2006. One/two junior staff of CUCG begin two year MSc Programme at FoS-RU;
- January 2007. Candidates to follow a master degree programme are proposed to RU. The FoS-RU Examination Board will analyze their academic curricula and decide about their admittance.
- Sept 2007. One/two junior staff of CUCG begin first year of MSc degree at RU; the other one/two students continue in second year at FoS-RU;
- May – August 2008. First group of CUCG staff (one or two) complete MSc degree at FoS-RU; and
- May – August 2009. Second group of CUCG staff (one or two) complete MSc degree at FoS-RU.
- March – April 2008. Steering Committee will review the Staff Development Programme and recommend that it be continued or terminated when second group completes the degree programme.

**f. Financial arrangements: Cost sharing and contributions/commitments of each party.**

i. Support for the teaching-learning programme at CUCG:

- FoS-RU to fund the costs involved in sending one or two instructors for a period of two or three weeks for each semester of the three year period (continuation of salary; insurance; administration related expenses);
- CUCG to provide for suitable accommodations and transportation and cover living expenses for these instructors during the time they are in Ghana.

ii. Support for the staff training programme for one or two CUCG junior staff a year: beginning in 2006 and continuing for three years (the academic years 2006/07 - 2008/09).

- FoS-RU to provide scholarships for a programme leading to an MSc degree at FoS-RU, by putting its programme at the NUFFIC list "NFP - fellowships for master's degree programmes";
- CUCG to provide for transport and living expenses of staff engaged in the staff training programme in Nijmegen. This will involve seeking funds to cover these expenses (also taking into account the NUFFIC-NFP-conditions).

iii. Special courses and training programme for CUCG/ICST instructors:

- FoS-RU to assist in planning and calendaring in discussions with schools;
- FoS-RU to provide instructor/s at least in the initial stages and train CUCG staff to continue the programme;
- CUCG to provide facilities on campus in Sunyani.

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