



**IMPLEMENTATION MANUAL
FOR THE QUALITY ASSURANCE
SYSTEM AT
CSIR COLLEGE OF SCIENCE AND
TECHNOLOGY (CCST)**

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HIGHLIGHTS OF THE QUALITY ASSURANCE POLICY OF CCST

1.1 Introduction

CCST has in place a documented Quality Assurance Policy, which was approved by the Governing Board in March 2021. This policy is available at the CCST website www.ccst.edu.gh. These highlights are therefore meant to bring out those salient points within the Policy that need close attention by all and had informed the development of this Implementation Manual.

This Implementation Manual has been put together as working tool or reference guide for the Quality Assurance Policy of CCST.

1.2 Mission of CCST

The Mission of CCST is to equip stakeholders in the physical and natural sciences with appropriate skills and attitudes to enhance their contribution to sustainable development in Ghana and beyond.

1.3 Aims of the CCST Quality Assurance

CCST's quality assurance aims to promote high academic standards and promote its image as a respected tertiary educational institution.

To do this:

- CCST will aim at providing quality academic programmes at the postgraduate level, whilst ensuring that it has facilities that will bring about a holistic teaching and learning environment.
- CCST also recognizes that Quality Assurance is key to providing an enhanced education and learning experience.
- CCST also recognizes that mechanisms are needed and these must be continually reviewed.

1.4 Scope of Quality Assurance at CCST

The scope of the CCST's Quality Assurance is to embrace everyone involved with the education at CCST. It therefore covers members of the Governing Board, lecturers and other staff members, students and external stakeholders.

1.5 Expected Outcomes of CCST Quality Assurance

The key outcomes envisaged are:

- Improved outputs of academic, administrative and supporting staff.
- Improved student achievement and success in learning.
- Improved visibility and competences of lecturers and supporting staff.
- Improved satisfaction and confidence of society and stakeholders in the awards of the College.
- Improved efficient structures of the College.
- Improved general enrolment levels of the College.
- Improved institutional public image and acceptance in Ghana and beyond.

1.6 Objectives of the CCST's Quality Assurance

- That CCST's programmes educate graduates to high international levels.
- That CCST's study programmes are research-based and the contents based on national and internationally recognized research to address industrial problems.
- That a quality culture is developed and maintained in which everyone- students, staff and management- continuously work to improve study programmes that meet societal needs.
- That relevant academic content and appropriate planning of the study programs is ensured so that they are completed in the prescribed time.
- That science of teaching and physical frameworks for the course, including the study environment, is continuously enhanced to guarantee an effective modern and motivating learning environment.
- That a balance between, on one hand, the guidelines for programmers' national standards and, on the other, an increasingly international education environment in terms of lecturers, students and the labour markets, is achieved.

GUIDING PRINCIPLE OF CCST'S QUALITY ASSURANCE

2.1 Introduction

The guiding principle of CCST's policy revolves around the expectations that Quality Assurance in Higher Education Institutions must involve systematic review of educational provision to maintain and improve quality, equity and efficiency (Kahveci, 2012). Accordingly, Higher Education Institutions (HEIs) are required to meet high quality standards and demand for high caliber human resources in the global economy to have competitive advantage. Therefore, the effectiveness of quality assurance in HEIs depends on identified structures, key stakeholders involvement and reciprocities within the feedback systems to sufficiently address the stakeholder expectations (UCC, 2018).

To this effectively, HEIs must recognize three pillars in Quality Assurance: **People**, **Programmes** and **Places**.

People refer to the coverage of internal and external stakeholders.

Programmes refer to processes, procedures and activities of the HEI. This includes the curricular design, teaching and learning, governance systems, leadership and management functions, student welfare and admission issues.

Place refers to the space, facilities and learning environments.

2.2 The Total Quality Management (TQM) Principle

CCST recognizes one of most effective and used principle for Quality Assurance in most HEIs all over the world is Total Quality Management (TQM). TQM is a management technique based on the idea that all employees continuously improve the ability to provide on-demand products and services that customers find of value.

TQM has eight pillars: Customer Focus; Total Employee Commitment; Process Approach; Integrated system; Strategic and systematic approach; Continual Improvement; Factual approach to decision making and Communication.

2.3 What Does TQM Mean at CCST?

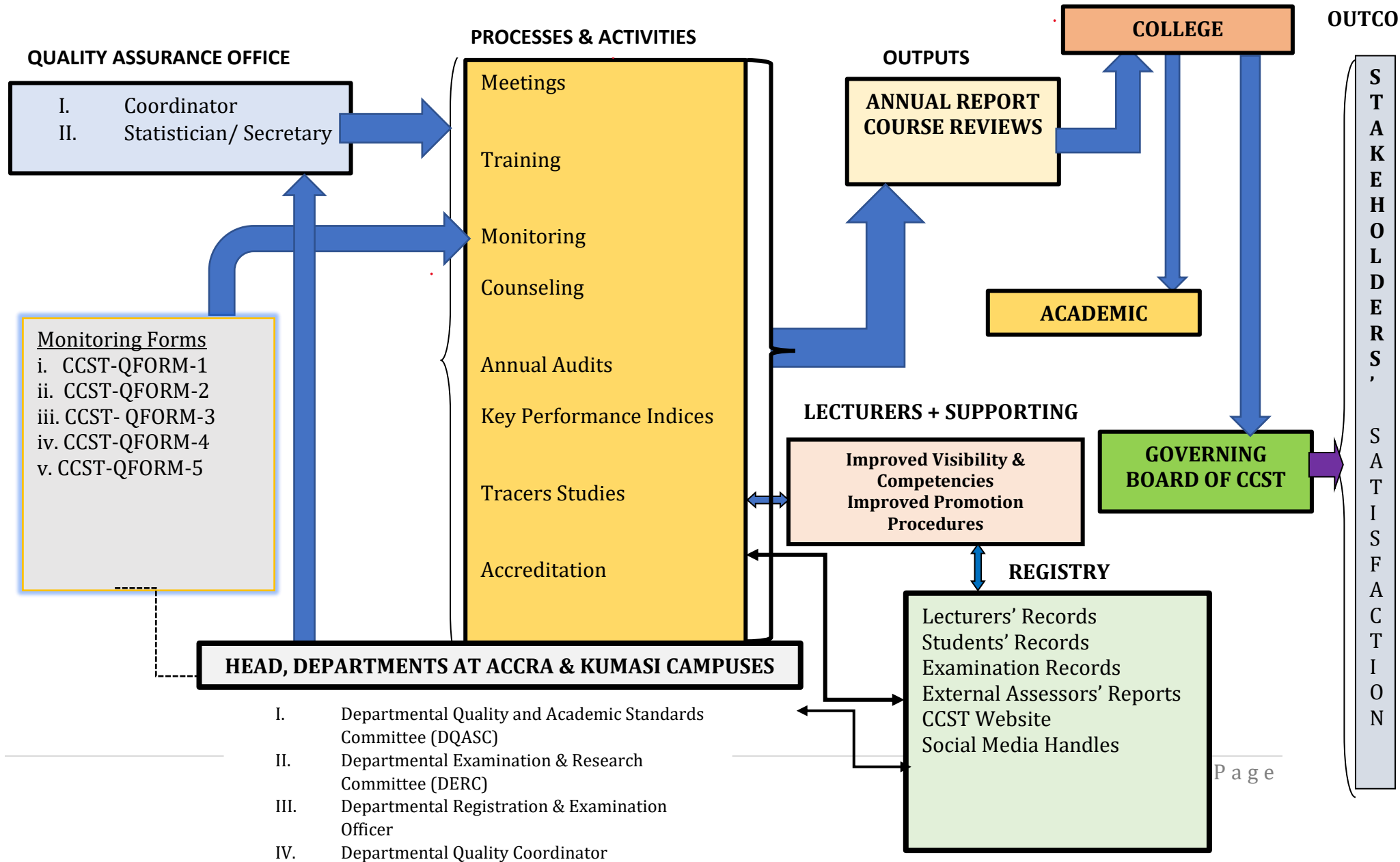
The key points for TQM implementation at CCST are:

- Team work: Everyone is involved from professor to the cleaner.
- Bottom-up approach: From Departments to (Faculties) to College
- Internal quality assurances: Emphasis on internal assurance mechanisms
- Regular feedbacks: From staff and lecturers
- Regular audits: To ensure compliance to established standards and identify challenges.
- Seeking stakeholders' satisfaction

3 THE CONCEPTUAL FRAMEWORK OF QUALITY ASSURANCE SYSTEM AT CCST

The following Conceptual Framework of the Quality Assurance Systems at CCST encapsulates all the ideas for the **3Ps** mentioned above in 2.1.

CONCEPTUAL FRAMEWORK OF THE QUALITY ASSURANCE SYSTEM AT CCST



IMPLEMENTING STRUCTURES AT DEPARTMENTS

The Implementing Structures for the Quality Assurance System at departmental levels at CCST are as follows:

4.1 Departmental Quality and Academic Standards Committee (DQASC)

The DQASC is to ensure an annual evaluation of all processes and activities at the Department.

Composition of DQASC

Chair: Head of Department

Other members: 7-member committee with at least 1 Professor, 1 Senior Lecturer and 1 Lecturer; Departmental Quality Coordinator and Departmental Administrator.

Schedule of Meeting: DQASC meets once a year (End of Year)

The **Terms of Reference (ToRs) of the DQASC** are therefore:

- i. Evaluate the performance of students-using examination marks/ results as benchmarks. (Use completed **CCST-QFORM 2**)
- ii. Evaluate the performance of lecturers- using feedback appraisals from students on course and lecturers as benchmarks (Use completed **CCST-QFORM-3**).
- iii. Evaluate the Progress of research work of Year 2 MPhil/Ph D students. (Use completed **CCST-QFORM-4 and CCST-QFORM 5**).
- iv. Evaluate the state of all facilities within the department that have bearing on the quality of teaching and learning.
- v. Evaluate key recommendations from the Departmental Examination and Research Committee (DERC)-using Minutes of DERC

Actions from the ToRs.

- a. Assess the need for changes/ improvements in the contents of courses
- b. Evaluate each course in the context of outcomes (how many students passed or failed)

- c. Evaluate any challenges in staffing and teaching.
- d. Evaluate any student with special challenges
- e. Evaluate arrangements and facilities for teaching and research work students.
- f. Evaluate the reports of external assessors.
- g. Evaluate any challenges lecturers have in respect of their promotion and ability to teach well.

Audit Schedule: Once a year- preferably in the **5th Week of Semester 1 of the succeeding academic year.**

Means of Verification: Minutes of the DQASC

Audit Report will therefore cover:

- i. Extract information from Minutes of the DQASC
- ii. Analyses of CCST-QFORM 2, CCST-QFORM 3, CCST -QFORM 4 AND CCST- QFORM 5
- iii. Audit of Learning Environment for students
- iv. Audit on Lecturers' Performance and Promotional issues
- v. Assess Key Performance Indices- Number of Students graduating, Number of Publications from Students' Research etc.

4.2 Departmental Examination and Research Committee (DERC)

This DERC is responsible for all issues related to the examinations and research works of students in each semester.

Schedule of Meeting: **Twice each Semester:** that is 4x in a year

Composition of DERC

Chair: Head of Department
 Other Members: All lecturers in the Department teaching in that semester as well as the principal supervisors of research students.
 Departmental Registration and Examination Officer
 Departmental Administrator

Schedule of meetings: Be in line with the Academic Calendar of CCST

Terms of Reference (ToRs) of the DERC are therefore:

1st meeting:

- Pre-moderate examination questions prior to sending to University of Cape Coast (UCC) for clearance
- Evaluate arrangement for Examinations
- Post-moderate examination results prior to sending to UCC.
- Assign supervisors for research work for Year 2 students
- Evaluate external assessors' reports

2nd Meeting

- Evaluate students' examination performance using CCST-QFORM – 2
- Evaluate students' appraisal of courses and lecturers- using CCST-QFORM-3
- Update research work of Year 2 students
- Arrangements for counselling of students with special challenges
- AOBs

Audit Schedule: Once a year- preferably in the **5th Week of 1st Semester in the succeeding academic year**

Audit Report will therefore cover:

- i. Extract information from Minutes of the DERC
- ii. Analyses of CCST-QFORM 1, CCST-QFORM-2, CCST-QFORM 3, CCST - QFORM 4 and CCST- QFORM 5.

KEY OFFICERS AT EACH DEPARTMENT INVOLVED IN QUALITY ASSURANCE SYSTEM AT CCST

5.1 Head of Department

- i. Mobilize funds for the activities of the Department
- ii. Chair the Departmental Quality and Academic Standards Committee (DQASC)
- iii. Responsible for departmental administration, recommendations for the appointments and promotions of staff and also ensure the maintenance of discipline in the Department;
- iv. Liaise with other departments, industries, professional institutions, associations and similar bodies on matters affecting the Department after consultation with members of the Department and the Academic Board;
- v. In consultation with members of the Department, recommend to the Academic Board the development and review of syllabi and courses as well as promotion of research in the Department;
- vi. Chair the Departmental Examination and Research Committee
- vii. Organize the teaching programme, maintain acceptable standards of teaching and to ensure that adequate facilities are available for research in their respective discipline, with the approval of Academic Board;
- viii. Ensure smooth implementation of decisions of College and Academic Board at the departmental level;
- ix. Defend the programme at the Ghana Tertiary Education Commission (GTEC) when required;
- x. Ensure strict adherence to the College Academic Calendar which shall be issued by the College from time to time;
- xi. Solve problems between lecturers and students;
- xii. Teach on the programme and also coordinate activities amongst Lecturers and
- xiii. All other activities that ensure the smooth running of the Department.

5.2 Departmental Administrator

- i. General administrative duties at the Department
- ii. In charge of general operations of the Department
- iii. Oversight responsibility of all Academic Personal Files of staff at the Department
- iv. In charge of all issues related to Postgraduate thesis/dissertation assessment
- v. Liaise with the College Registry on all matters related to Students' Registration and Admission, Accreditation of Programme and appropriately prompt the Head of Department for action
- vi. Provide advisory support to the Heads of Department
- vii. Liaise with Head of Department on all issues related to Pre and Post Examination Moderation Exercises
- viii. Bind all certified question papers, marking schemes and course outlines (both soft and hard copies) for every academic year and ensure the safety of these documents
- ix. Furnish the College Registry with information/news on all academic staff, support staff, students and alumni for Department webpage on the College website.
- x. In consultation with the Head of Department and the Accountant assigned to the Department submit both the Departmental specific Budget and Procurement for every Academic year to the College Accountant to be incorporated in the College composite budget.
- xi. Liaise with Heads of Department on all issues related to students' academics and welfare matters
- xii. Be a member of both Departmental Quality and Academic Standards Committee (DQASC) and the Departmental Examination and Research Committee (DERC)
- xiii. Take minutes during meetings at all Departmental Board and any Committee in the Department and ensure appropriate documentation
- xiv. Play a lead role in the organization of orientation for fresh students, matriculation, graduation and other ceremonies as and when required
- xv. Liaise with College Accountant on issues related to students' fees payment
- xvi. Assist in the implementation of recommendations/decisions of Boards/Committees as contained in the College Policy documents and also circulated by the College/Department from time to time.
- xvii. Serve on any Ad hoc Committees set up by the Departmental Board

5.3 Departmental Registration and Examination Officer

- i. Ensure that the appropriate courses are mounted before the start of registration for each semester;
- ii. Be present during the period schedule for registration of students;
- iii. Ensures that students do not register more than the allowed maximum credit load per semester;
- iv. Assist students with the courses they are required to register;
- v. Cross-checks student's registration form and ensure that they have registered the right courses;
- vi. Offer counselling service to student regarding the registration processes;
- vii. Liaise with the Head of Department or College Registry or other course lecturers as the case may be
- viii. Be a member of the Departmental Examination and Research Committee (DERC)
- ix. Submit periodic report on problems related to registration to the Head of Department at the end of each semester.
- x. Advise students on examination malpractices;
- xi. Ensure examination questions have been processed on time for end of semester examinations;
- xii. Ensure that materials have been obtained for end of semester examinations;
- xiii. Ensure that students' marks have been keyed into the College database on time after end-of-semester examinations;
- xiv. Ensure that results of students are published timely on Departmental notice boards;
- xv. Solve any problems of students related to examinations.
- xvi. Keep track of student examination records as regards re-sits and referrals.
- xvii. Submit periodic reports on problems related to examinations to the Head of Department at the end of each semester.

5.4 Departmental Quality Coordinator

- i. Serve as a liaison officer between the Department and Quality Assurance Coordinating Office of CCST
- ii. Assist the Head of Department for the implementation of the Quality Assurance Manual of CCST
- iii. Be responsible for tracking the completion and submission of all monitoring forms that need to be submitted periodically to the Quality Assurance Coordinating Office of CCST.
- iv. Assist with the annual audits of the Quality Assurance Coordinating Office of CCST

- v. Identify students who may have special needs and challenges that the Department and the Quality Assurance Coordinating Office of CCST and arrange for counseling.
- vi. Be a member of the Departmental Quality Assurance and Standards Committee (DQASC)
- vii. Liaise with the Head of Department and Registry, through the College President for any training workshops needed to improve the competencies of lecturers.
- viii. Be responsible for any other matter related to maintaining conducive learning environment at the Department.

MONITORING FORMS

There are five monitoring forms to assist the implementation of the Quality Assurance System at CCST.

- CCST-QFORM – 1: CCST Course Outline Design Form
- CCST-QFORM- 2: CCST Course- Examination Evaluation Form by Lecturers
- CCST-QFORM-3: CCST Course -Lecturer Appraisal Form by Students
- CCST-QFORM-4: CCST Student Research Inception Form
- CCST-QFORM- 5 CCST Student Research Progress Report Form

6.1 CCST Course Outline Design Form (CCST-QFORM-1)

Purpose: This form is to assist lecturers to design the outline of the course they teach.

Schedule: This form must be completed, signed and submitted to the Head of Department by the end of the second week of each semester.

A e-copy of the completed form must be sent to the CCST Quality Coordinating Office through its email qao@ccst.edu.gh

6.2 CCST Course-Examination Evaluation Form by Lecturers (CCST-QFORM -2)

Purpose: This form is to help the lecturer, department and Quality Assurance Coordinating Office ascertain courses (and topics) that students are doing well and those that students are having challenges. This is help inform possible reviews of courses within the College.

Schedule: This form must be completed, signed and submitted to the Head of Department (HOD) immediately after marking the exam scripts at the end of each semester.

The HOD will send a scanned copy of the completed form to the CCST Quality Assurance Coordinating Office through its email qao@ccst.edu.gh

6.3 CCST Course- Lecturer Appraisal Form by Students (CCST- QFORM -3)

Purpose: This is to obtain feedback on course topics taught and lecturers' performance from students.

This is to enable the Quality Assurance Coordinating Office to track the performance of lecturers and challenges of students.

Schedule: This form will be completed by students in the 12th week of each semester.

Completed forms will be collated by the Departmental Quality Coordinating Office and sent to the Quality Assurance Coordinating Office, at qao@ccst.edu.gh, with copies left with the HOD.

6.4 CCST Students Research Inception Form (CCST-QFORM-4)

Purpose: This is to document initial arrangements made for research work by MPhil/ PhD and the Principal Supervisor within the Institute/ Department.

This is to ensure students undertaking research will have the cooperation of heads of divisions of laboratories/ on-farm experimental stations/ fields etc. within the CSIR Institutes.

It is also meant to make students aware of the limitations that exist within the CSIR institutes

Where limitations exist especially with laboratory facilities, students and principal supervisors may ascertain possible alternative laboratories where the analyses could be carried out.

6.5 CCST Students Research Progress Report Form (CCST-QFORM-5)

Purpose: This is to document progress of students undertaking research work.

To help the department and Quality Assurance Coordinating Office track performance and challenges of Year 2 students/ PhD students undertaking research work.

Schedules: To be completed and submitted twice: **6th and 10th months (for M Phil students) and 15th and 25th months (for Ph D students)** from the beginning of research work.

Completed forms should be submitted to HOD, scanned copies sent to Quality Assurance Coordinating Office through qao@ccst.edu.gh
The Departmental Quality Coordinator will track compliance of the schedules.

OTHER ACTIVITIES TO BE CARRIED BY THE QUALITY ASSUARANCE COORDINATING OFFICE

7.1 Annual Audits

There will be annual audits of the implementation quality assurance system of CCST. The schedule dates for the audit will be communicated to all Departments through a secular from the Registry at the beginning of each academic year.

The audit will be done using a comprehensive checklist to ascertain compliance to the system, as spelt out in this Implementation Manual.

The audits are expected to identify issues of quality that must be brought to College Management.

Any non-conformances will be reported to the College President as part of the Annual Reports of the Quality Assurance Coordinating Office.

The Quality Assurance Coordinating Office will therefore compile annual audit reports highlighting performance of each Department.

7.2 Tracking of Key Performance Indices of the College

The Quality Assurance Coordinating Office will assist in tracking key performance indicators that CCST has set itself in its Strategic Plan.

7.3 Graduate Tracer Studies

This will involve identifying and following up of graduates from CCST to ascertain from them how they view their experiences during the courses undertook and their transitions to the job market. These studies will also seek to get the impressions of the employers of the CCST's graduates of the relevance of the courses at CCST. These studies will be done through annual surveys, using the CCST Alumni, as facilitators.

7.4 Improving the Competences and Visibilities of CCST's Lecturers

This will be through periodic training workshops to improve on teaching methods. Through the Registry of CCST, steps will be taken to ensure that the details of lecturers of CCST are published on the CCST's website. The details will include biodata, qualifications, department, courses they teach, contact details, career and research interests of all lecturers are adequately advertised on the CCST's website. For example, the list will include staff on Google Scholar, Researchgate, Scopus etc.

7.5 Accreditation

The Quality Assurance Coordinating will constantly be preparing to provide statistical evidence and reports to back up the College's renewal applications for both Institutional and Programme accreditation from the Ghana Tertiary Educational Commission.

APPENDICES- MONITORING FORMS

(AS ATTACHED)