

GHANA TECHNOLOGY UNIVERSITY COLLEGE

RESEARCH HANDBOOK

OFFICE OF RESEARCH SERVICES AND INNOVATION

2014

To GUIDE research at Ghana Technology University College

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BACKGROUND

This Research Handbook is an update on the 2009 Research Handbook developed by the Office of Research and Consultancy Services. The handbook is designed as a reference guide and does not seek to prescribe individual approaches in undertaking research.

Through good conduct GTUC aims to uphold its own reputation, as well as public trust in research as a whole. The University aims to ensure that there are adequate structures to promote and promulgate good research practice. The Handbook supports this aim and demonstrates that the University is committed to a culture and environment where high standards of personal and professional conduct are encouraged and expected. It is the responsibility of all researchers to be aware of their commitments and the expectations of the University as outlined in this Handbook.

The Handbook attempts to draw together elements of good practice which are of particular relevance to research, however this guidance is by no means exhaustive. Researchers should consult with related University policies, procedures and guidelines as appropriate.

Purpose

This handbook has been designed to:

- Support research activities at the University College by providing guidance in the administration of sponsored research projects
- Ensure that financial funds are administered in accordance with existing policies and regulations of the University College and
- Provide information about the various legal restrictions and requirements that must be followed.
- This Research Handbook also aims to support and assist Academic Staff within GTUC in progressing their research interests and in the preparation of research proposals.

Scope

This Guide is intended for academic, research, support staff and other individuals employed by Ghana Technology University College to carry out research at, or on behalf of, the University College. The term researchers has been used throughout this Handbook to refer collectively to the above groups of people.

Research students and their supervisors should use this guide in conjunction with the research student handbook, which also outlines procedures for dealing with allegations of research misconduct for research students

Feedback

This handbook is intended to be a working document. Research is dynamic and so are the policies and procedures documented here. The handbook is subject to change and we welcome

your comments and suggestions, which will allow us to make this change in line with the needs of the research community at Ghana Technology University College. Please feel free to provide your feedback to the Office of Research Services and Innovation at orsi@gtuc.edu.gh.

1.0 INTRODUCTION

In this Handbook, the University has set out general standards, principles and responsibilities regarding good research practice. It does not stipulate how these should be put into operational practice at a local level, as this will vary according to the particular research environment of the Faculty, School and Centre.

The University Research Committee is responsible for reviewing the contents of this handbook on a regular basis

1.1 Definition of Research

Research - is an undertaking intended to extend knowledge through a disciplined inquiry or systematic investigation done in the context of academic activity on behalf of the University College. Research involves some or all of: the creation of new knowledge, including understanding or concepts; the creative application of existing knowledge; the organization and synthesis of existing knowledge; and/or creative expression.

It excludes routine testing and routine analysis of materials, components and processes such as for the maintenance of national standards, as distinct from the development of new analytical techniques. It also excludes the development of teaching materials that do not embody original research

1.2 Requirement to Undertake Research

- (a) All academic staff are expected to conduct research and publish their findings (subject to commercial sensitivities).
- (b) All academic staff should, where appropriate, seek research funds in support of their research.
- (c) The requirement to undertake research is a career expectation and will be balanced with the other obligations of academic staff including teaching and administrative responsibilities.
- (d) Nothing in this policy is to be construed so as to prevent Heads of Faculties from allocating teaching and other responsibilities in the light of the research record of academic staff.

1.3 Statutory and Ethics Obligations

- (a) Academic staff and students are required to carry out their research in compliance with all the University's obligations under legislation and any ethical and contractual obligations.
- (b) Research projects that involve human or animal subjects, including those undertaken as part of a teaching programme, must be approved in advance (see the Human Ethics Policy and the Animal Ethics Policy)

2.0 STANDARDS OF GOOD RESEARCH PRACTICE

The following standards aim to encourage researchers to consider the wider consequences of their work and to engage critically with the practical, ethical and intellectual challenges that are inherent in the conduct of high quality research.

The University College expects these principles to be integrated into all aspects of research and scholarly activity.

The main principles of good research practice are:

A) Excellence

The University and its researchers should strive for excellence when conducting research and aim to produce and disseminate work of the highest quality.

B) Honesty

The University should work to create and maintain a culture of research that fosters and supports honesty in research. Researchers should be honest in relation to their own research and that of others. They should do their utmost to ensure the accuracy of data and results, acknowledge the contributions of others, and neither engage in misconduct nor conceal it.

C) Integrity

Researchers must comply with all legal and ethical requirements relevant to their field of study. They should declare any potential or actual conflicts of interest relating to research and where necessary take steps to resolve them.

D) Co-Operation

The University and its researchers should promote the open exchange of ideas, research methods, data and results and their discussion, scrutiny and debate, subject to any considerations of confidentiality.

E) Accountability

The University and its researchers should recognise that in and through their work they are ultimately accountable to the general public and should act accordingly. They should ensure that any research undertaken complies with any agreements, terms and conditions relating to the project, and allows for proper governance and transparency.

F) Training And Skills

Training and opportunities for development should be provided for researchers, along with the necessary resources to enable them to conduct research to the required standards.

Researchers should be supported in identifying unmet needs for training and development.

Researchers should ensure that they have the necessary skills, training and resources to carry out research, in the proposed research team or through collaboration with specialists in relevant fields, and report and resolve any unmet needs identified.

3.0 RESEARCH POLICY

The University College is committed to excellence in research based on the highest national and international standards, and the active promotion of the important role of research in teaching. The Office of Research Services is responsible for implementing the University College's policy regarding grants, contracts and other sponsored projects. Faculty and staff contact this office for information and assistance on applying for grants and administering the resulting programs.

Applications to all external funding sources, whether governmental agencies and endowments, private or corporate foundations, which request financial assistance in the form of grants, donations, or contracted support require advance written approval from the Office of the Vice President. Approval is required in all instances where such financial assistance involves the use of the University College name, facilities, resources or personnel, and/or commits the University College in any way to the support of the project.

All requests to outside sources for assistance must be fully coordinated in advance through the Office of Research Services and Innovation. The Vice President or his/her designee must approve all applications for external funding as described above.

Additionally, the President/Vice President or his/her designee must formally accept all project monies as described above in the name of the University College prior to their implementation, and must certify appropriate expenditure of funds, where such certification is required by the funding agency.

4.0 THE OFFICE OF RESEARCH SERVICES AND INNOVATION

4.1 Overview

Ghana Technology University College is dedicated to creating and disseminating knowledge through research. The Office of Research Services and Innovation (ORSI) contributes directly to this mission by providing comprehensive support to faculty and staff in the administration of research projects. ORSI offers professional administrative services to the University College's research community by providing information on funding opportunities, providing assistance in proposal preparation and submission, assisting in post-award reporting and regulatory observance and organizing workshops and seminars for faculty and staff. The Office is located within the Graduate School building on the main campus at Tesano, Accra.

4.2 Services

The Office of Research Services administers support for research and scholarly/creative work across the entire university community. This support includes:

1. Assisting faculty and staff to identify and obtain external and internal funding for research, training and scholarly activities;
2. Assisting faculty and staff in proposal and pre-award processing;
3. Assisting faculty with intellectual property and technology transfer matters;
4. Assuring that all research applications, awards and activities comply with University College policy;
5. Managing approved cost-sharing arrangements on grants and contracts; and
6. Assuring university compliance with funders' research regulations.

4.3 Responsibilities of the Office

ORSI assists faculty and staff with development of research papers and articles, proposal development, submission of proposal and administration of awards.

1. Development of Research Papers
 - assisting faculty in the development of research papers and articles;
 - submitting research papers and articles for publication in peer reviewed journals on behalf of the University College;
 - processing of claims for payment made for the publication of research papers and articles in peer reviewed journals;
 - providing a database of peer reviewed journals.
2. Applications and Award Processing, which includes:
 - providing assistance to identify potential sources of financial support for research projects;
 - maintaining website with comprehensive links to sources of funding opportunities;

- providing assistance in negotiation of contracts and multi-party collaborations;
 - negotiating, approving and signing research agreements and contracts on behalf of the University College, where the signature indicates:
 - indirect costs have been included as allowable;
 - appropriate ethics approval has or will be secured prior to the release of funds;
 - approval of any required institutional commitments (e.g. matching funds);
 - required approval signatures have been obtained from researcher(s), Dean(s) and the Vice President.
 - processing notices of award from sponsors;
 - communicating to Office of the Vice President, researchers and faculty on sponsor decisions and administrative requirements related to awards;
 - establishing accounts (projects) for successful awards and providing account maintenance over the life of the awards and beyond as necessary.
3. Ongoing Grant Management, which includes:
- providing assistance to researchers and other University College staff on administrative processes; and
 - liaising with sponsors to ensure compliance with the most recent guidelines and to resolve conflicts and concerns (where applicable).
4. Exercising financial control over research funds, including:
- approval of all expenditures where such approval indicates that expenditures are
 - associated with the project or program for which the award is made;
 - eligible in accordance with the terms and conditions of the agreement;
 - necessary to the research endeavour being undertaken;
 - reasonable and conform with the financial guidelines of the sponsor and University College;
 - incurred within the eligible dates of the agreement.
 - submission and retention of original documentation; and
5. Financial administration, which includes:
- administering and accounting for research funds received by the University College;
 - generating invoices during life of the award in accordance with the sponsor terms and conditions;
 - preparing and submitting financial reports to sponsors;
 - coordinating researchers' progress reports to sponsors;
 - monitoring expenditures on behalf of the University College and providing regular reports to the Office of the Vice President;

- coordinating research-related audits; and
 - processing indirect cost allocation where indirect costs are provided for within the grant award or contract.
6. Administering Institutional Awards, which includes:
- administering various internal funds and awards;
 - administering the submission of various institutional awards on behalf of the University College; and
 - exercising financial control over funds received from institutional awards, including monitoring and approval of all transactions.

5.0 RESEARCHERS

5.1 Responsibilities of Researchers

The University expects all its researchers to act with the highest standards of integrity irrespective of the source from which their posts or projects are funded. Researchers should consider good practice in research as a routine part of their work and should be aware that good practice includes reporting concerns about the (mis)conduct of research.

Researchers should:

- a) recognize their responsibility to conduct research of high ethical standards;
- b) be aware of GTUC's policies and procedures on good practice in research;
- c) make sure that their research complies with these policies and procedures, and seek guidance where necessary;
- d) work with the University to ensure they have the necessary training, resources and support to carry out their research; and

External regulation and collaborative research

- e) In addition to this Guide, researchers should follow the requirements and guidance of any professional bodies in their field of research, included learned societies. Researchers who are members of a regulated profession must observe the standards of the body regulating their profession and follow their requirements.
- f) In addition to this Handbook, researchers should be aware of the standards and procedures for the conduct of research followed by any organizations involved in collaborative research that they are undertaking. Similarly, GTUC researchers should ensure collaborating partners are aware of the standards and procedures outlined in this Handbook. Researchers should ensure the agreement of, and compliance with, common standards and procedures for the conduct of collaborative research, in consultation with support departments and research managers as necessary. Researchers should try to anticipate any issues that might arise as a result of working collaboratively and agree jointly in advance how they might be addressed.

Researchers, administrators in faculties and departments need to understand their respective roles regarding the administration of research funds at the University College. This document is the main resource for communicating roles and responsibilities to new and continuing staff.

In general, the researcher is required to carry out research responsibly. Projects are carried out on behalf of "The Council of the Ghana Technology University College" in accordance with the negotiated, contractual terms. Individuals are personally responsible for the intellectual and ethical quality of their work and must ensure that their scholarly activity meets the University College's standards. The primary responsibilities of the researcher are:

1. Preparing funding applications that:
 - meet the requirements of the sponsor;

- are consistent with the vision and mission of the University College;
 - include the signatures of all co-applicants and their appropriate administrators;
 - budget for all direct costs;
 - include indirect costs where applicable; and
 - identify in writing the office space and other resource requirements.
2. Signing all applications, where the researcher's signature means that:
 - the researcher will abide by sponsor terms and conditions and the University College's policies and procedures; and
 - research involving human subjects etc. will only be undertaken with prior approval of the appropriate University College Institutional Review Committee.
 3. Divulging any conflict of interest or potential conflict of interest at the time of the application or at any time during the term of the award.
 4. Delegating signing authority in accordance with University College policy, where such delegation is in writing and retained on file.
 5. Being personally responsible for any expenses in excess of available award funds, including ineligible costs and revenue lost due to failure to meet the terms and conditions of the agreement.
 6. Managing and supervising research personnel by:
 - abiding by University College policies and procedures including those relating to Human Resource where acting as a supervisor; and
 - ensuring all staff and students engaged in the research are fully informed of and agree to be bound by the terms and conditions of the award.
 7. Submitting all required reports and deliverables to the sponsor through ORSI in accordance with the terms and conditions of the agreement.
 8. Informing the Faculty office, ORSI and sponsor of:
 - any change in academic status, (e.g. extended, sabbatical or sick leaves);
 - any significant change to the research program that was originally approved, including any impact on certifications; and
 - any other changes that may affect the terms and conditions of the agreement.

6.0 FACULTIES/SCHOOLS

In general, Deans are responsible for supporting research activities in their Faculties/Schools.

1. The Dean must sign all grant applications, where the signatures denote:
 - support of the proposed activity;
 - the availability of office space and other resources that the applicant has declared;
 - the ability to provide administrative support to the research activity;
 - that the applicant is eligible to undertake research under University College policy;
 - that the applicant meets the sponsor's eligibility requirements; and
 - where stated, agreement to the negotiated terms and conditions.

2. The Faculty is responsible for implementing effective systems to ensure that:
 - research is carried out in compliance with University College policies and sponsor terms and conditions;
 - all research has the appropriate certification approvals;
 - researchers provide research deliverables and reports; and
 - potential conflicts of interest are addressed.

3. The Faculty is responsible for implementing internal control procedures for:
 - ensuring action is taken to address potential conflict with sponsor terms and conditions and University College policies; and
 - project end date management

7.0 UNDERTAKING RESEARCH

7.1 Types of Research

There are different categories of research. All these apply at the University College

- Basic or fundamental research
- Applied research in niche areas
- Research for human capital development
- Research for competency building
- Collaborative research
- Contract research
- Research for innovation
- Institutional research

Basic or fundamental research

Researchers may conduct fundamental research in their disciplines and this will be funded under non-niche funding.

Applied research

Researchers may conduct applied research, preferably in the University niche areas which address the University's focus on science and technology. Applied research projects that integrate participatory approaches will be given priority funding.

Collaborative research

Stakeholders include staff, students and individuals within and outside the institution. Collaborative work shall culminate in publications in forms of journal articles, monographs, book chapters and books. Collaborative research teams differ significantly from the individual schools/postgraduate student research teams. Research teams must consist of colleagues from different disciplines, students and colleagues from different institutions, who perform specialised functions.

These are characteristics of collaborative research –

- a) that principal investigators and senior staff members have special responsibilities to assure overall cohesiveness and validity of the publications on which they appear as co-authors.
- b) that all authors in a group effort have a shared responsibility for the published result and should have the opportunity to review all sample preparation procedures and data, as well as all data acquisition and analysis procedures.
 - i. In a project that involves a multi-investigator research team, and the project results in a multi-authored research paper, there should be agreement on authorship before the research project commences.
 - ii. Investigators have the responsibility to ensure the authorship rights of

students and their research assistants and to acknowledge their intellectual contribution to a research project.

- iii. Each author in a group effort should have access to the manuscript prior to it being submitted for publication, and should agree to his inclusion as a co-author. All the participants in the programme should know that the paper is being prepared for publication.
- iv. Early in the project, each research group should define appropriate practices for the maintenance of data.

Research for innovation

Innovation is the process of taking new ideas to address problems of society through to satisfied customers. Research is conducted to create knowledge that is codified, sent and received. Researchers of inventions can define knowledge use, intellectual property should be protected to create incentives. Innovation comes from within, a self-reflective process, but can also be sourced using open source.

Institutional and educational research

This is research that is conducted by mainly the support divisions that aims to improve planning, teaching methodologies and service delivery.

Research grants via the internal grant

University funds are primarily intended to foster academic research at the University and to improve outputs and contribution to knowledge generation. ORSI will consider applications under this section from full-time academic staff, members of management and administrative staff.

The broad principles informing the recommendations of research proposals are -

- a. The need to support basic research that is geared towards innovation and new knowledge production
- b. The internal grant has the potential to supplement external funding for university research
- c. Development of strategic research niche areas and “centres of research excellence”
- d. multidisciplinary of the research projects and evidence of partnerships and/or collaborations with other researchers
- e. the need to support young academics (at particularly the beginning phase of their research careers) and new senior academic staff and to develop postgraduate students.

7.2 Types of Proposals

There are two main types of proposals – Solicited and Unsolicited Proposals.

A **Solicited Proposal** is a proposal written in response to a formal request for proposals.

An **Unsolicited Proposal** is a proposal that is submitted not at the request of a funding agency or in response to a solicitation announcement. Unsolicited proposals are submitted solely at the discretion of the proposer.

Other types of proposals are as follows:

- **New Proposals**

Original requests for funding from an agency, for projects that have not been funded by the sponsor previously

- **Renewal Proposals**

Requests for continued funding for existing sponsored projects, beyond the term of the current award.

- **Supplements**

Requests for additional funds for an existing sponsored project, typically for a particular item or equipment or subproject not anticipated in the original proposal. Supplemental funding requests are usually for a shorter term. They rarely extend beyond the period of performance.

- **Revisions**

Requests for significant changes to a project, either a major change in the budget or a change in the scope of work or both.

- **No-Cost extensions**

Requests to extend the period of performance of an award without additional money from the sponsor.

- **Resubmissions**

Grant applications which were not funded, revised to reflect feedback from the initial peer review and resubmitted to the sponsor.

- **Research Proposals**

Involves basic, applied and demonstrative research that fits into the mission of the funding agency and the agency submitting the proposal.

- **Training**

Involves proposals submitted to undertake training for individuals in a special manner or for a specific purpose that is approved by the funding agency.

- **Public Service**

These are projects involving research or instructional activities that benefit the community.

7.3 Types of Agreements

Award documents are legal agreements between GTUC and individual sponsors. The most common types of agreements include formal contracts, grants, and cooperative agreements. All agreements listed below are reviewed, negotiated, and approved only by the President/Vice President on behalf of GTUC.

Grant

A grant is a type of assistance awarded to an organization for the conduct of research or other program as specified in an approved proposal. Grants are the most commonly used type of sponsored agreement and their terms and conditions are flexible. Sponsors award them to support research described by Principal Investigators (PI) in proposals submitted often, but not always, in response to solicitations. The proposal describes what the PI hopes to accomplish with the award and outlines a general course of inquiry. Within the scope specified in the formal grant agreement, the PI controls the direction of the inquiry process. Not all grants are for research. Some provide support for other sponsored activities – a conference or symposium, training, programme activities etc.

Contract

A contract is a written agreement enforceable by law. The primary purpose of the contract is to provide defined deliverables or to carry out a prescribed service for the benefit or use of the sponsoring agency. Contracts constitute a more restrictive category than grants. Contracts are most often awarded on the basis of proposals submitted in response to requests from sponsors; these are sometimes referred to as Request for Proposals (RFPs).

Cooperative agreement

A cooperative agreement is used when the sponsoring agency wants to be more actively involved in the conduct of the project. Under this agreement, the agency can suggest the research direction or require more frequent reporting.

7.4 Funding Opportunities

GTUC has a number of resources available to assist faculty and staff to identify funding for research and training. There are several basic ways in which faculty and staff can find out about funding sources:

- **Word of Mouth**

The most common way to find out about potential funding for a research project is by "word of mouth" from colleagues or through the department.

- **The Office of Research Services and Innovation**

ORSI maintains a Resource File where it keeps all current Requests for Proposals (RFP's), Requests for Quotes (RFQ's), Expression of Interest (EOI) and all other announcements for research/project funding. In addition, the website of the ORS contains a listing of different web services the University College either participates in or subscribes to.

- **Newspapers**

Another good reference source is the daily newspapers (Daily Graphic and Ghanaian Times). Most Offices have a subscription to this journal.

- **Grants.gov**

Grants.gov allows organizations to electronically find and apply for more than \$400 billion in Federal grants. The United States Agency for International Development (USAID) advertises requests for proposals on this site.

- **Sponsor Specific Websites**

Various funding agencies have websites on which they publish RFP's, RFA's and EOI's. A list of the websites is available at ORSI.

7.5 The Proposal Development Process

All applications for outside financial assistance or for contracted services which use the name of the University College and which commits the University College in any way can only be submitted to prospective funding sources, after review and approval by the Office of the Vice President through the Office of Research Services and Innovation. In this way the University College can support applications fully and plan their most effective use within the broad vision of the University College.

The following procedures are primarily designed to coordinate the University College's support and commitments and provide the infrastructure to successfully fulfill the obligations of awards.

Step 1 – Discuss research/project idea with Dean/Head of Department.

This is to ensure their approval and support of the research/ project. Before expending a great deal of time on preparing a formal application for funds-and no later than six weeks before the deadline-the Principal Investigator must first consult and receive preliminary planning support and approval from his/her respective dean or head of department. At this point, the Office of Research Services must also be involved to discuss the project and the requirements for the submission of the proposal. Such plans might include, for example, registration on electronic websites, Letters of Intent, and discussions of compliance or cost-sharing.

Eligibility to Apply - Only a faculty member or a staff member in full time position may initiate a proposal and accept responsibility for the resulting grant. This person is designated as the Principal Investigator (PI).

Step 2 – Obtain Grants Request Form.

This form is available on the ORSI website under the section ‘Forms’. The form must be filled and approved by the dean/head of department.

Step 3 – Submit form to ORSI – The approved form is submitted to ORSI who will seek the Vice President’s approval. ORSI discusses funding opportunities and the proposal with the Principal Investigator.

Step 4 – Develop proposal

The Principal Investigator (PI) develops the proposal in collaboration with ORSI. The proposal must be approved by the dean/head of department. A proposal is an offer initiated by the University College to carry out a program under the direction of the faculty member who is the designated Principal Investigator (PI). In implementing the project, the PI uses the personnel, facilities and equipment of the University College. Proposals are prepared by faculty or staff members and in some cases the Office of Research Services and Innovation in accordance with the agency guidelines. The ORSI prepares the budget for the proposal and ensures that it is adequate for the scope of work, that the proposed costs are allowable, and that the University College’s indirect cost rate are calculated properly.

Proposals must be consistent with the policies and mission of the University College. One or more faculty members and/or professional staff may be responsible for the project; they can be from the same unit or from several units within the University College.

Step 5 – Submit proposal to ORSI – the principal investigator sends the approved proposal to the ORSI for review. PI(s) are required to submit completed proposals to ORSI at least fifteen (15) working days prior to the agency deadline. This ensures that there is sufficient time to review the proposal, obtain signatures, upload the proposal electronically (if necessary) and receive confirmation before the deadline. Proposals are submitted by ORSI after the proposal has been approved. Confirmation of receipt is forwarded to the Vice President and the Principal Investigator.

Step 6 – Obtain Approval for proposal – This is done by ORSI from the Office of the Vice President. All formal applications for funds must be approved by the Vice President before submission. Faculty and staff seeking external support for sponsored projects coordinate the development and submission of their proposals through ORSI. ORSI obtains the appropriate

approvals and signatures of the department head, dean and Vice President, on the completed proposal.

All applications forwarded to the Vice President for approval must start the concluding transmittal and approval process at least ten (10) working days prior to any application (submission) deadline and conveyed on the University College's internal approval form. A copy of the grantor's application/funding guidelines must be included with the material submitted for formal approval.

Review of the proposal by the Institutional Review Board (IRB) may be required if the project involves the use of human subjects. Either the faculty member or ORSI submits the proposal for review. A letter from the IRB Chair approving the proposal is required before the proposal will be submitted.

Step 7 – Proposal is submitted – ORSI submits the proposal and informs the principal investigator and the vice president of receipt by the funding agency.

7.6 Writing the Proposal

To approach a potential sponsor for support of research you typically need to write and submit a proposal. Writing a good proposal means that you clearly define your ideas, the problem and the benefits of the solution you suggest. With the proposal you should be able to persuade the reviewers that your project merits research support, that its size is manageable and that you are competent to complete it successfully.

7.6.1 Elements of a Proposal

Sponsors frequently supply application forms, which specify their requirements and deadlines. When specific requirements are unavailable, the following information should generally be included:

- **Title Page**

The title page of the proposal should include the following elements:

- Title of the Proposed Project
- Submitted To (Name and Address of Potential Sponsor)
- Submitted By (Principal Investigator and Department of Ghana Technology University College)
- Date Submitted

- **Abstract/Summary**

This is usually one page or less, depending on the requirements of the sponsor.

- **Body of Proposal**

Specific requirements vary significantly from sponsor to sponsor but they generally require a detailed technical description of the project (including goals, methods of research and significance), and a bibliography.

- **Facilities Available**

Identify only those specific facilities, which will be directly used in the completion of the project.

- **Personnel**

Include complete Curriculum Vitae for Principal Investigator (s), including information regarding relevant experience and publications.

- **Budget**

The proposal budget must outline the costs of the entire project, justify these costs and adequately document them. The PI should clearly state to the sponsor how much the entire project will cost and what the specific categories are. Before submitting the proposal, the PI should consult the ORS who are available to assist the PI in preparing the budget.

7.6.2 Proposal Budget

Budget items, which require documentation by most agencies, include the following:

- Salaries, Wages, and Fringe benefits: List all senior personnel, the months to be funded and rates of pay.
- Capital equipment
- Travel: State the type and extent of all travel and explain its relevance to the project.
- Other direct costs: Identify specifically what is included and estimate costs for: materials and supplies, publication costs, consultant services, computer costs, graduate tuition remission, and subcontracts.
- Indirect costs: Specify the current negotiated rate.

The proposal budget is an important element of the proposal, and its importance warrants special emphasis. Below are listed some key points and hints to take into account when you develop the budget.

- **Cost Accounting Standards and Cost Accounting Disclosure Statement**

Ghana Technology University College is required to comply with the Government Cost and Accounting Standards.

- **Allowable Costs**

Allowable costs are those categories of costs that can be charged to a grant or contract (i.e. salaries, equipment, travel, supplies, etc.). Certain types of costs, (i.e. cost of alcoholic beverages, etc.) are not allowable and may not be charged to a contract or grant. The tests of allowability of costs are: (1) they must be reasonable; (2) they must be allocable to the sponsored agreement under the principles established; (3) they must be given consistent treatment throughout application of those generally accepted accounting principles appropriate to the circumstances; and (4) they must conform to any limitations or exclusions set forth in established principles or in the sponsored agreement as to types or amounts of cost items.

- **Reasonable costs**

A cost may be considered reasonable if the nature of the goods or services acquired or applied, and the amount involved, reflect the action that a prudent person would have taken under the circumstances prevailing at the time of decision to incur the cost was made. Major considerations involved in the determination of the reasonableness of a cost are: (1) whether or not the cost is of a type generally recognized as necessary for the operation of the University College or the performance of the sponsored agreement; (2) whether or not the individuals concerned acted with due prudence in circumstances, considering their responsibilities to the institution, its employees, its students, the Government, and the public at large; and (3) the extent to which actions taken with respect to the incurrence of the cost are consistent with established institutional policies and practices applicable to the work of the University College generally, including sponsored agreements.

- **Allocable Costs**

Allocable costs are those acceptable costs that actually benefit the grant or contract to which they are being charged. A cost is allocable to a sponsored agreement if (1) it is incurred solely to advance the work under the sponsored agreement; (2) it benefits both the sponsored agreement and other work of the University College, in proportions that can be approximated through use of reasonable methods, and/or (3) it is necessary to the overall operation of the University College and, is deemed to be assignable in part to sponsored projects. Where the purchase of equipment or other capital items are authorized under a grant or contract, the amounts authorized for such purchases are assignable to the sponsored agreement regardless of the use that may subsequently be made of the equipment or other capital items involved.

- **Unallowable Costs**

Unallowable expenses are not allocated to sponsored projects as either a direct cost or as facilities and administrative indirect costs. Generally, unallowable costs include: administrative and clerical salaries, local telephone charges and installation, office supplies, memberships, and postage. If a charge is unallowable as a direct cost, it is also unallowable as a match or cost sharing.

- **Direct Costs**

Direct costs are those identified specifically with a particular sponsored project, an instructional activity, or any other institutional activity; that can be directly assigned to such activities relatively easily with a high degree of accuracy. Costs incurred for the same purpose in like circumstances must be treated consistently as either direct or indirect costs. General categories of direct costs include, but are not limited to, salaries and wages, fringe benefits, supplies, contractual services, travel and communication, equipment and computer use.

- **Personnel Costs**

These costs are for GTUC Personnel only. Non-GTUC personnel costs should be identified as consultants and/or independent contractors.

- **Travel**

Travel costs include expenses for transportation, lodging, subsistence, and related items incurred by employees who travel in relation to a sponsored project. Such costs may be charged on an actual basis, or on a per diem or mileage basis in lieu of actual costs incurred subject to the maximum amounts set by the University College and within the University College's Travel Policy and practices consistently applied to all institutional travel activities. Reimbursement of travel costs associated with sponsored research projects must comply with all provisions stipulated by the sponsoring agency, or with all provisions of the University College's travel policy if more restrictive. Travel costs are divided into two categories:

- **Domestic travel:** includes travel within Ghana.
- **Foreign travel:** includes travel outside Ghana. For a proposal budget, estimated cost should normally include air fare or other mode of transportation, the number of days of per diem, and ground transportation in accordance with University College policy. Most sponsors require a statement about the purpose of the proposed travel and its relevance to the sponsored program, especially in connection with foreign travel.

- **Equipment**

Capital Equipment

These are defined as moveable assets which have an individual net -unit cost of \$5000 or more (or its equivalent in Ghana cedis) and have a useful life of two or more years. Each piece of equipment should be justified on the budget justification page. Explain why it is unavailable at present within the University College and why it is necessary to the project.

Capital Equipment and Supplies

This includes equipment, which costs less than \$5000 (or its equivalent in Ghana cedis) and other special direct costs such as photographic expenses, reference books, etc. Direct costs that are normally unallowable, or considered to be covered by indirect costs include office furniture, renovations and other general purpose expenditures.

- **Consultants/Professional Services**

A consultant is an individual hired to give professional advice or services for a fee but not as an employee of the University College. A consultant can be an individual or organization under agreement to provide primarily professional services (including actuarial, scientific, engineering, or technical advice) to the University College in an independent contractor capacity. Consultant costs can include the consultant's travel and incidental expenses. Consultant costs can also include payments for conference or workshop speakers.

The Principal Investigator (PI) should identify and include appropriate consultant costs as part of their proposal budget. Some sponsoring agencies limit the amount that can be paid to consultants for their time. You should determine if there are limits on consultants before you submit a proposal to a sponsoring agency.

- **Supplies**

Lab and Technical Supplies. Items such as laboratory supplies and materials, lab notebooks, report binders etc. that are used only for project purposes are justified as lab and technical supplies

Office Supplies. Supplies necessary for the administrative or clerical functions of an office. Office supplies may not be directly charged to sponsored activities (grants or contracts) unless specifically identified and justified in the proposal.

- **Other Expenses**

Printing and Photocopying. The costs of printing, photocopying, photographing, etc. incurred in producing documents or other printed material.

Advertisement. Costs incurred for publishing articles or papers in magazines, journals, etc.

Telephone Equipment. These costs (usage and purchase of telephone equipment) may not be directly charged to grants and contracts unless specifically identified and justified in the proposal. Sponsor approval is required in all cases.

7.7 Signatures and Approvals

In general, at least three signatures are required on sponsored research proposals: those of the Principal Investigator, the Head of Department and the Vice President. The Dean's signature is also often required by the sponsor.

By signing, Principal Investigators state that they understand their commitments to the project and agree to meet their obligations as set forth by the proposal. They also affirm that they understand and will abide by all of the University College policies and procedures outlined in this manual.

The signatures of each Dean and Head of Department attest to their support of the proposal: that all matters relating to available space, facilities and personnel have been considered and that the project is operative entirely within the administrative structure of the department.

The signatures of the Vice President and the Office of Research Services and Innovation indicate that the proposal and the budget have been reviewed and that they meet the requirements of both the University College and the potential sponsor.

7.8 Award Negotiations

An award is given to and accepted by the Office of Research Services and Innovation on behalf of the University College. The Project Director/Principal Investigator acts on behalf of the University College to fulfill the goals of the project, and complete the project activities. Administrative support in doing this lies with the various faculties and ORSI. Official and required financial reports will be developed together with ORSI. The Office will assist the PI so that project funds are effectively expended in a timely manner and used for their designated purpose.

When a proposal is selected for an award, the University College may request additional budgetary or technical information. All additional information provided to the University College is provided through ORSI. The Office of Research Services and Innovation working with the Principal Investigator (PI) will negotiate the terms and conditions of the sponsored agreement. The time required to negotiate the agreement depends on the complexity of the agreement, the responsiveness of the agency, the amount of support required from other University Departments, and the type of award anticipated.

ORSI will keep the PI informed on the progress of the negotiations with the sponsor. If appropriate, the PI will be invited to participate in the discussions. Under no circumstances should the PI sign a sponsored agreement or give the impression that he/she is negotiating on behalf of the University College.

During the course of a sponsored agreement, there may be a need to change or modify the terms and conditions of the award. As with the initial negotiations, ORSI will conduct these negotiations, keeping the PI informed.

Sponsored research agreements must be signed by the President or the Vice President. **No other personnel are authorized to commit Ghana Technology University College to a sponsored research agreement.**

The negotiation process of award documents can be complex and lengthy. Presented here are a number of pivotal negotiating points that the Office of Research Services and Innovation would likely address in any award document.

7.8.1 Freedom to Publish

Sponsored research is critical to fulfilling the University College's mission to acquire knowledge and disseminate it freely. In order to protect the ability faculty, staff and students to support its mission, the University College will not enter into contracts that restrict publication.

7.8.2 Intellectual Property

Intellectual Property includes any patentable invention, any copyrightable subject matter, or trade secret. It also includes works of art, and inventions or creations that might normally be developed on a proprietary basis. As a nonprofit educational institution, it is essential for GTUC to retain ownership of its intellectual property.

The policy on intellectual property satisfies the following goals:

- To create a University College environment that encourages the generation of new knowledge by faculty, staff and students
- To facilitate wide transfer of useful inventions and writings to society
- To motivate the development and dissemination of intellectual property by providing appropriate financial rewards to creators and administrative assistance to creators
- To ensure that the financial return from the development of intellectual property does not distort decisions and operations of the university in a manner contrary to the mission of the University College

7.8.3 Warranty Language

All agreements between GTUC and sponsors should include a disclaimer of warranties regarding research and its results. As a non-profit, educational institution, the University College engages in research only on as-is basis and cannot guarantee a successful outcome or definite results. By nature research is unpredictable and if the University College provides the sponsor a warranty, it may have to continue working at a cost until the deliverables promised are performed.

7.8.4 Indemnification

GTUC is an educational institution incorporated as a not-for-profit company. In order to protect the University College, it is not possible for the University College to risk possible litigation by assuming the risks of our research partners. GTUC requests that its potential sponsors indemnify the University College against negligent use or willful misuse or negligent conduct or willful misconduct regarding any deliverables provided by GTUC under the award.

8.0 PROJECT ADMINISTRATION

Overall responsibility for project activities, time and effort reporting, timeliness and narrative reports lies with the Office of Research Services and Innovation and the Principal Investigator. Periodic performance reports required by the funding source should also be filed with the unit supervisor and the Office of Research Services and Innovation. Compliance with the University College and grantors regulations is paramount in the successful administration of a grant or contract. Every effort should be made by the project director, his/her unit supervisor and by ORSI to assure the funding agency that the funds are administered according to regulations.

8.1 Reporting

- **Narrative Reports**

The PI is solely responsible for completion and submission of all required narrative reports. The award document should be reviewed to determine the nature and frequency of any required technical reports. Where no policy is defined by the sponsor, it is the responsibility of the PI to recognize the implied obligation to provide information. For a one year grant, a project completion report would be the minimum obligation. For multiple year grants, annual reports should be considered the minimum obligation.

- **Financial Reports**

It is the responsibility of the PI to control expenditures within the limits of the budget. Any overruns or deficits must be authorized and absorbed within existing budgets. Purchases should be supported by documented information and written authorization for payment of invoices. Good recordkeeping helps to provide control over financial aspects of the research project and provides an audit trail for the sponsoring agency. The Finance Office, the PI and ORS are responsible for the timely preparation and submission of the financial reports.

- **Project Close-out Report**

In addition, principal investigators are responsible for overseeing the proper close-out of sponsored projects, including the timely submission of all required reports (including final technical reports) to ORSI.

8.2 Extensions

- **No-Cost Extensions**

The PI is expected to complete work under sponsored agreements within the project period specified in the award. However, if the PI needs additional time to complete the approved scope of work, using existing funds, the sponsor may consider a request to extend the expiration date of the award at no additional cost. ORS will determine the process required for requesting a no-cost extension based on the terms and conditions of the individual award.

- **Continuations and Renewal Proposals**

It may be necessary for the PI to file continuation or renewal proposals. The content and frequency of proposals are determined by the individual sponsoring agency guidelines. All continuation or renewal proposals should be submitted via ORSI. The PI/Head of Department should notify the ORSI of their intention to apply for the continuation/renewal prior to the end of the current budget period of the award. The ORSI will determine the process that is required for submitting these proposals based on the terms and conditions of the individual award.

- **Over Expenditures and Disallowance**

It is the responsibility of the Principal Investigator to ensure funds are spent appropriately, including remaining within the allotted budget amount. If for any reason an anticipated continuation or preliminary award is not funded, or over-expenditures are incurred on a project for which the contract or grant is terminating, the principal investigator or his/her department will be deemed responsible for paying the cost overruns. Serious misuse of funds will be handled through the University College's Disciplinary Committee.

8.3 Management of Research Data and Equipment

Accurate and appropriate research records are an essential component of any research project. Both the University and the principal investigator have responsibilities and rights concerning access to, use of, and maintenance of original research data.

Except where precluded by the specific terms of sponsorship or other agreements, tangible research property, including the scientific data and other records of research conducted under the auspices of the University, belongs to the institution.

The University's Office of Research Services and Innovation is responsible for the maintenance and retention of research data in accordance with this policy.

8.3.1 Definitions and applicability

This policy shall apply to all University staff, students and any other persons at GTUC involved in the design, conduct or reporting of research at or under the auspices of the University. It shall also apply to all research projects on which those individuals work, regardless of the source of funding for the project.

Research data include laboratory notebooks, as well as any other records that are necessary for the reconstruction and evaluation of reported results of research and the events and processes leading to those results, regardless of the form or the media on which they may be recorded.

GTUC must retain research data in sufficient detail and for an adequate period of five years to enable appropriate responses to questions about accuracy, authenticity, primacy and compliance with laws and regulations governing the conduct of the research. It is the responsibility of the principal investigator and the ORSI to determine what needs to be retained under this policy.

Where research is funded by a contract with the GTUC, which includes specific provision(s) regarding ownership, retention of and access to technical data, the provision(s) of that agreement will supersede this policy.

8.3.2 Ownership

The University's ownership and stewardship of the scientific record for projects conducted at the University, under the auspices of the University, or with its resources, are based on sound management principles. GTUC's responsibilities in this regard include, but are not limited to -

- i) Complying with the terms of sponsored project agreements
- ii) Ensuring the appropriate use of animals, human subjects, radioactive materials, and the like
- iii) Protecting the rights of students, postgraduate students and staff, including, but not limited to, their rights to access to data from research in which they participate
- iv) Securing intellectual property rights
- v) Facilitating the investigation of charges, such as scientific misconduct or conflict of interest.

8.3.3 Collection and retention

The principal investigator is responsible for the collection, management, and retention of research data. Principal investigators should adopt an orderly system of data organisation and should communicate the chosen system to all members of a research group and to the appropriate administrative personnel, where applicable.

Particularly for long-term research projects, principal investigators should establish and maintain procedures for the protection of essential records in the event of a natural disaster or other emergency.

Research data must be archived for a minimum of five years after the final project close-out, with original data retained wherever possible. In addition, any of these circumstances may justify longer periods of retention -

- i) Data must be kept for as long as may be necessary to protect any intellectual property resulting from the work
- ii) If any charges regarding the research arise, such as allegations of scientific misconduct or conflict of interest, data must be retained until such charges are fully resolved
- iii) If a student is involved, data must be retained at least until the degree is awarded or it is clear that the student has abandoned the work.

Beyond the period of retention specified here, the destruction of the research record is at the discretion of the principal investigator and his or her department or laboratory.

Records will normally be retained in the unit where they are produced. Research records must be retained by the research office, or in facilities under the auspices of the University, unless specific permission to do otherwise is granted by ORSI. Equipment bought by research funds - (internal/external - shall be retained at the relevant department within GTUC. Such equipment shall be documented by the assets office.

8.3.4 Access

Where necessary to ensure needed and appropriate access, the University has the option to take custody of the data in a manner specified by the Office of Research.

8.3.5 Transfer in the Event of a Researcher Leaving GTUC

When individuals involved in research projects at GTUC leave the University, they may take copies of research data for projects on which they have worked. Original data, however, must be retained at GTUC by the principal investigator and the research office.

9.0 INTELLECTUAL PROPERTY

The GTUC Counsel has responsibility for the institution's Intellectual Property policy, its content and implementation. In this role, the Counsel oversees the institution patent attorneys responsible for ensuring that ORSI identifies and receives the intellectual property rights required for the institution to achieve its mission. This requires their full participation during the full cycle of technology development activities – advising during acquisition planning, evaluating contracts and partnership agreements, negotiating intellectual property provisions, identifying and enforcing GTUC's rights in intellectual property developed by partners and contractors, and obtaining appropriate protections for those rights.

9.1 University Owned Intellectual Property

GTUC, in accordance with general law principles is the owner of IP created under the following circumstances:

- IP created by employees in the course of their employment
- IP created by students with a significant use of the University's resources in relation to their research work
- Any IP made, discovered or created with significant use of the University's resources. A significant use of University resources is said to occur where the Intellectual Property is created with the use of University-administered funds, University facilities, resources, time, office space, personnel, administrative support, etc.

9.2 Royalty Distribution

Non-equity royalties or income from the commercialization of an IP or technology shall be maintained by the University until all direct and indirect costs related to the protection and/or commercialization of the invention is reimbursed. Subsequently, the Net royalty / Net income would be distributed as follows:

- i) The inventor will receive sixty percent (40%) of Net royalties/income. This will be distributed equally among inventors where there is more than one inventor.
- ii) The remaining Sixty percent (60%) would be allocated as follows:
 - a. Twenty five percent (25%) to the University
 - b. Ten percent (10%) to support research activities
 - c. Fifteen percent (15%) to an IP Fund to be established in support of IP protection, marketing and commercialization activities etc.
 - d. Ten percent (10%) to the Inventor's Faculty to support research activities
- iii) The investor may request for information on all relevant documentation relating to the commercialization of an IP or technology.

9.3 Confidentiality

All IP disclosures shall be considered confidential by the University. Researchers and ORSI are responsible for informing all third parties of the confidential nature of information contained in a disclosure and any other documents that may be shared.

9.4 Ownership of Data

Research data shall be jointly owned by the University and researcher(s). Either party shall have a right to use the data for its research purposes.

10.0 REGULATORY COMPLIANCE

10.1 Conflict Of Interest Disclosure and Management

A potential **Conflict of Interest** occurs when there is an interconnection between an individual's private interests and his or her professional obligations to the University College such that an independent observer might reasonably question whether the individual's professional actions or decisions are affected by their private interest. Conflicts of commitment arise when faculty and staff members' involvements in outside activities substantially interfere with their primary commitments to the University College: to teach, to conduct research and to meet related obligations to students, colleagues and the University College.

All University College faculty and staff should make the fulfillment of their responsibilities to the University College the focal point of their professional activities. University College faculty and staff should only become involved in extramural professional activities insofar as they advance the mission and vision of the University College and the activities do not interfere with their responsibilities to the University College. It is expected that any member of the University staff will inform University management as appropriate of any outside obligations that may represent conflicts of interest. Trust is advanced by appropriate disclosure and discussion. However, this policy is not intended to unduly restrict involvement in outside activities.

10.2 Responsible Conduct of Research (RCR)

Responsible Conduct of Research refers to research being conducted in a responsible, scientific, and academic manner. This area of compliance includes questions of fabrication and/or falsification of data, plagiarism, authorship, and mentorship.

11.0 PUBLICATION GRANTS

Publication grants refer to funds available to cover costs covering scholarly work generated from research activities.

11.1 Conditions

Grants for the publication of manuscripts are made available for works published in peer reviewed journals. The grant does not cover work that can be commercialised.

Applications (on the prescribed form) will only be considered under these conditions -

- i) The work must contain the findings of original research and be of topical (relevant) scientific value/ have literary merit (in the case of a non-scientific work).
- ii) The material contained in the work must be mainly original and should not have been readily available to other researchers.
- iii) The material must be presented concisely.
- iv) The author must submit proof that all possible alternative channels through which the work could have been published have been explored.
- v) The manuscript (in printed/typed/digital format) should - in addition - be submitted to at least three publishers.
- vi) Manuscripts can also be published internally.

It must be noted that no disclosure of possible financial assistance by the University may be made pre-emptively to any prospective publisher.

11.2 Application Procedure for Journal Article Publication

Most journals do not require the authors to pay for the publication of research articles. However, for some publishers/ journals, it is mandatory that the authors pay either the page fees or the reprint charges, or both.

To encourage publications, the Office of Research Services and Innovation (ORSI) may fund the researchers to meet the publication charges. The researchers should complete the necessary form for funds for the payment of the publication cost. The application will be approved by the Vice President.

To qualify for funds for publication costs -

- i) The journal must be in an accredited journal and peer reviewed in international standard serial number or international standard book number lists.
- ii) The author's name and the G.T.U.C.'s name must appear in the publication.
- iii) All the necessary documents like an acceptance letter and invoice for publication charges must accompany the application.
- iv) If there are more than one author for a research publication, funds will be provided in the respective ratio agreed upon by the authors. This applies for collaborative publications, whether nationally or internationally.
- v) Research articles accepted for publication or submitted for publication prior to the

- assumption of duty at GTUC will not qualify for funds.
- vi) For all practical purposes, the publication costs should not exceed the subsidy that the article may attract.
 - vii) All the researchers must acquaint themselves with the list of accredited journals in their respective fields of specialization.

11.3 Depositing of copies

Two copies of a book, monograph or proceedings must be forwarded to library services.

11.4 Exemptions

These will not be considered under this grant

- i) work which has already been published
- ii) honours, masters or PhD dissertations

12.0 OTHER ISSUES

12.1 Kickback Prohibitions

GTUC personnel shall not provide, attempted to provide, or offer anything of value to any government or private industry official to enhance relations with that official or the government, regardless of whether or not that official is in a position to influence any decision with respect to University or its activities. This includes, but is not limited to, any money, fee commission, credit, gift gratuity, thing of value, or compensation of any kind, directly or indirectly. Nor shall any University personnel solicit or accept anything of value from any government or private industry official including prime contractors, subcontractors or others for such a purpose.

12.2 Confidentiality

The Office of Research Services does not share copies of proposals and awards with other researchers or entities outside the University College unless this is mandated by law or approved by the Principal Investigator or the Vice President.

12.3 Absence of Principal Investigator and/or Other Key Personnel

The University College, and primarily the PI, is required to notify the awarding agency if the PI or other key personnel named in the award will: 1) withdraw from the project entirely, 2) be absent from the project during any continuous period of three months or more (including sabbatical leave). The notification must give the details regarding the absence including a general description of the location(s) of the Principal Investigator during the period. The agency must approve any alternate arrangement, including any replacement PI or other key personnel proposed by the University College through the Office of Research Services.

RESEARCH ADMINISTRATION GLOSSARY

Allocable Costs - Those allowable costs that actually benefit the grant or contract to which they are being charged.

Allowable Costs - Those categories of costs that can be charged to a grant, such as salaries and equipment. Certain types of costs, such as the cost of alcoholic beverages are not allowable and may not be charged to a contract or grant.

Audit - A formal examination of an organization or individual's accounts or financial situation. An audit may also include examination of compliance with applicable terms, laws, and regulations.

Award - Funds that have been obligated by a funding agency for a particular project.

Budget - The detailed statement outlining estimated project costs to support work under a grant or contract.

Budget Period - The interval of time-usually twelve months-into which the project period is divided for budgetary and funding purposes.

Budget Adjustment - The act of amending the budget by moving funds from one category or line item to another.

Close Out - The act of completing all internal procedures and sponsor requirements to terminate or complete a research project.

Competing Proposals - Proposals that are submitted for the first time or unfunded proposals that are resubmitted; either must compete for research funds.

Consortium Agreement - Group of collaborative investigators/institutions; arrangement can be formalized with specified terms and conditions.

Continuation Project (Non-Competing) - Applicable to grants and cooperative agreements only. A project approved for multiple-year funding, although funds are typically committed only one year at a time. At the end of the initial budget period, progress on the project is assessed. If satisfactory, an award is made for the next budget period, subject to the availability of funds. Continuation projects do not compete with new project proposals and are not subjected to peer-review beyond the initial project approval.

Contract - A mechanism for procurement of a product or service with specific obligations for both sponsor and recipient. Typically, a research topic and the methods for conducting the research are specified in detail by the sponsor, although some sponsors award contracts in response to unsolicited proposals.

Contract/Grant Officer - A sponsor's designated individual who is officially responsible for the business management aspects of a particular grant, cooperative agreement, or contract. Serving as the counterpart to the business officer of the grantee/contractor organization, the grant/contract officer is responsible for all business management matters associated with the review, negotiation, award, and administration of a grant or contract and interprets the associated administration policies, regulations, and provisions.

Cooperative Agreement - An award similar to a grant, but in which the sponsor's staff may be actively involved in proposal preparation, and anticipates having substantial involvement in research activities once the award has been made.

Cost-Sharing - A general term, used as a noun or adjective that can describe virtually any type of arrangement in which more than one party supports research, equipment acquisition, demonstration projects, programs, institutions. Example: A university receives a grant for a project estimated to have a total cost of GH¢100,000. The sponsor agrees to pay 75% (GH¢75,000) and the university agrees to pay 25% (GH¢25,000). The GH¢25,000 is the cost-sharing component.

Deficit - Expenditures exceed funds available.

Direct Costs - Clearly identifiable costs related to a specific project. General categories of direct costs include but are not limited to salaries and wages, fringe benefits, supplies, contractual services, travel and communication, equipment, and computer use.

Donation - Transfer of equipment, money, goods, services, and property with or without specifications as to its use. Sometimes donation is used to designate contributions that are made with more specific intent than is usually the case with a gift, but the two terms are often used interchangeably.

Endowment - A fund usually in the form of an income-generating investment, established to provide long-term support for faculty/research positions.

Expiration Date - The date signifying the end of the performance period, as indicated on the Notice of Grant Award.

Extension - An additional period of time given by the sponsor to an organization for the completion of work on an approved grant or contract. An extension allows previously allocated funds to be spent after the original expiration date.

Final Report - The final technical or financial report required by the sponsor to complete a research project.

Funding Cycle - Range of time during which proposals are accepted, reviewed, and funds are awarded. If a sponsor has standing proposal review committees (or boards) that meet at specified times during the year, application deadlines are set to correspond with those meetings. For some sponsors, if proposals are received too late to be considered in the current funding cycle, they may be held over for the next review meeting.

Gift - Gifts and bequests are awards given with few or no conditions specified. Gifts may be provided to establish an endowment or to provide direct support for existing programs. Frequently, gifts are used to support developing programs for which other funding is not available. The unique flexibility, or lack of restrictions, makes gifts attractive sources of support.

Grant - A type of financial assistance awarded to an organization for the conduct of research or other program as specified in an approved proposal. A grant, as opposed to a cooperative agreement, is used whenever the awarding office anticipates no substantial programmatic involvement with the recipient during the performance of the activities.

Indirect Costs - Costs related to expenses incurred in conducting or supporting research or other externally-funded activities but not directly attributable to a specific project. General categories of indirect costs include general administration (accounting, payroll, purchasing, etc.), sponsored project administration, plant operation and maintenance, library expenses, departmental administration expenses, depreciation or use allowance for buildings and equipment, and student administration and services.

Invitation for Bid (IFB) - A solicitation issued to prospective bidders. An IFB describes what is required and how the bidders will be evaluated. Award is based on the lowest bid. Negotiations are not conducted.

Key Personnel - The personnel considered to be of primary importance to the successful conduct of a research project. The term usually applies to the senior members of the project staff.

Matching Grant - A grant that requires a specified portion of the cost of a supported item of equipment or project be obtained from other sources. The required match may be more or less than the amount of the grant. Some matching grants require that the additional funds be obtained

from sources outside the recipient organization. Many matching grants are paid in installments, the payments coinciding with the attainment of pre-specified levels of additional funding.

New Award - An award not previously awarded or a renewal or continuation award treated as a new award by the sponsor and given a new agency number.

New and Competing Proposals - Proposals that are submitted for the first time or ongoing projects that must re-compete for funding prior to expiration of the original award.

No Cost Extension - An extension of the period of performance beyond the expiration date to allow the principal investigator to finish a project. Usually, no additional costs are provided.

Notice of Grant Award - The legally binding document that serves as a notification to the recipient and others that a grant or cooperative agreement has been made. It contains or references all terms of the award and documents the obligation of funds.

Peer Review - A system using reviewers who are the professional equals of the principal investigator or program director who is to be responsible for directing or conducting the proposed project. It is a form of objective review. Peer review is legislatively mandated in some programs and in other programs is administratively required.

Pre-Proposal (Expression of Interest) - A brief description, usually 2-10 pages, of research plans and estimated budget that is sometimes submitted to determine the interest of a particular institution prior to submission of a formal proposal.

Principal Investigator - The individual responsible for the conduct of research or other activity described in a proposal for an award.

Program Announcement - Describes the existence of a research opportunity. It may describe new or expanded interest in a particular extramural program or be a reminder of a continuing interest in an extramural program.

Program/Project Officer - A designated individual officially responsible for the technical, scientific, or programmatic aspects of a particular grant, cooperative agreement, or contract.

Progress Report - Periodic, scheduled reports required by the sponsor summarizing research progress to date. Technical, fiscal, and invention reports may be required.

Project Period (PP) - The total time for which support of a project has been programmatically approved. A project period may consist of one or more budget periods.

Proposal - An application for funding that contains all information necessary to describe project plans, staff capabilities, and funds requested. Formal proposals are officially approved and submitted by an organization in the name of a principal investigator.

Request for Applications (RFA) - Announcements that indicate the availability of funds for a topic of specific interest to a sponsor. Proposals submitted in response to RFAs generally result in the award of a grant.

Request for Proposal (RFP) - Announcements that specify a topic of research, methods to be used, product to be delivered and appropriate applicants sought. Proposals submitted in response to RFPs generally result in the award of a contract.

Request for Quotations (RFQ) - A formal request from an agency to vendors for a price quotation on equipment or supplies to be purchased.

Revision - A modified and resubmitted request for funding for a project that was previously not funded either because it was denied by the sponsor or withdrawn by the principal investigator.

Scope of Work - The description of the work to be performed and completed on a research project.

Senior Personnel - Professional personnel who are responsible for the scientific or technical direction of a project.

Unsolicited Proposals - Proposals submitted to a funding agency that are not in response to an RFP, RFA, or program announcement.